How might participation in primary school eco clubs in England contribute to children's developing action-competence-associated attributes?

Lee, Elsa

Award date:
2014

Awarding institution:
University of Bath

How might Participation in Primary School Eco Clubs in England Contribute to Children's Developing Action-Competence-Associated Attributes?

by

Elsa Ukanyezi Lee

Doctor of Philosophy

UNIVERSITY OF BATH

Department of Education

Faculty of Humanities and Social Sciences

February 2014

ABSTRACT

HOW MIGHT PARTICIPATION IN PRIMARY SCHOOL ECO CLUBS IN ENGLAND CONTRIBUTE TO CHILDREN'S DEVELOPING ACTION-COMPETENCE-ASSOCIATED ATTRIBUTES?

The literature pertaining to action competence in the field of environmental education (EE), and active citizenship in the field of citizenship education (CE) were reviewed for this research. This review reveals an indeterminate collection of attributes that are associated with both action competence and active citizenship. This research introduces the term action-competence-associated attributes to refer to them.

The purpose of this research is to explore how children's participation in primary school eco clubs might afford opportunities for the development of these attributes. The justifications for this purpose are founded in the literature in the fields of environmental and citizenship education, in current educational policy in England, in practice in primary schools in England and in my personal research interests and philosophical principles.

A transactional methodology frames the research, which comprises a multiple case study using participant observation and interviews. The data gathered from the two cases of primary school eco clubs, were subjected to both theory- and data-led thematic analysis. The emergent themes suggest how participation in eco clubs affords opportunities that contribute to the ongoing development of children's action-competence-associated attributes.

This research makes three distinct contributions to knowledge. The first concerns the potential for eco clubs to enable primary schools to address the non-statutory framework for CE. A variety of different contextual factors influence how this takes place. The second contribution is the development of an analytical framework from action competence that may be useful for other researchers seeking to use action competence research to interrogate their own data .The third is the application of Biesta's (2011) concept of the ignorant citizen to the school teachers in this research. The ignorant school teacher, by her/his very ignorance, is shown to influence the development of particular action-competence-associated attributes that might otherwise not be effected.

Contents

List of tables

List of figures

List of accompanying materials

DECLARATION OF AUTHORSHIP

I, Elsa Lee

declare that the thesis entitled

How MIGHT participation in primary school eco clubs in England contribute to children's developing action-competence-associated attributes?

and the work presented in the thesis are both my own, and have been generated by me as the result of my own original research. I confirm that:

- this work was done wholly or mainly while in candidature for a research degree at this University;
- where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
- where I have consulted the published work of others, this is always clearly attributed;
- where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
- I have acknowledged all main sources of help;
- where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
- none of this work has been published before submission,

Siged: ……..

Date:…….

Acknowledgements

I would like to acknowledge the support and assistance provided to me by my supervisors, Ms Elisabeth Barratt Hacking and Professor Stephen Gough. Their engagement with and interest in my work enabled me to achieve a depth of thought and joy of discovery that would otherwise have been impossible.

I would also like to thank Professor William Scott who started me on this journey and without whom I would not have been able to complete it. He has had a profound impact on my thinking and my sense of myself. For this I will always be grateful.

Throughout this journey I have travelled alongside Chloe Blackmore and Naasirah Abdullah Teo. They have been constant and daily sources of both comfort and laughter, inspiration and direction. Although this journey has been at times isolating, I have never been isolated and that is thanks to them.

My parents started me on this journey the day I was born. Their purposeful and principled approach to living and life has been and always will be an inspiration to me.

Above all I would like to thank my son, Frankie and his dad, Eamonn who have put up with the highs and lows that are the inevitable outcome of such an undertaking. Thank you for your unflinching faith in me and for keeping me firmly grounded.

Definitions and Abbreviations

Dialogue – the conversations that take place in the clubs between children and other children or between children and adults

Encounter - refers to a period of activity during a club meeting with specific participants (working alone or together), which can be isolated from a different period based on focus or the participants' involvement or some other similar factor. For example, a group of children working on a display about solar panels might communicate about how to draw a map of the school. This period of activity would be referred to as an encounter or a child might work independently on a letter to a bee-keeper and this period of activity would be called an encounter

Session - a meeting of the members of the club that took place on regular basis when the club carried out its normal activities. The researcher would take on the role of participant observer in these sessions.

CE – Citizenship Education

EE – Environmental Education

ESD – Education for Sustainable Development

EE/ESD – Environmental Education and Education for Sustainable Development

HT1 – Teacher in Charge of Case 1

HT2 – Teacher in Charge of Case 2

Tic1 – Teacher in Charge of Case 1

Tic2 – Teacher in Charge of Case 2

UnIS – Unidentified Speaker

2+S – two or more speakers talking at the same time

xx

Part 1 – Background and Theoretical Underpinnings

Chapter 1

Introduction

1.2 Overview

The purpose of this research is to establish a link between action competence as an approach to teaching in the field of environmental education, and active citizenship as a goal of citizenship education (CE), within the arena of eco clubs in primary schools in England. This purpose will be achieved through addressing the research question:

How might participation in primary school eco clubs in England contribute to children's developing action-competence-associated attributes?

The justifications for investigating this question are manifold and are founded in literature in the field of environmental education and CE, in current educational policy in England, in the national and international socio-political climate and in my personal research interests and philosophical principles. Each of these aspects of the justifications for this research will be developed in greater depth in the remainder of Part 1 of this research. Chapter 1 (the introductory chapter) locates the research in environmental education and CE practice in primary schools in England. Chapter 2 (the theoretical perspectives chapter) situates the research in theory (including the theory pertaining to the action competence approach and participatory pedagogy) and reviews the literature that influences the analysis. Chapter 3 (the methodological chapter) presents the onto-epistemic framing of the research as an outcome of my research trajectory, both prior to and during this research. Chapter 4 (the ethical approach chapter) delineates the approach to researching with children; describing how this concords with current trends in the literature. Part 2 is a reflexive exploration of the fieldwork undertaken in this research. Chapter 5 comprises the case descriptions including descriptions of the schools of which the two cases are a part drawing on an heuristic developed in Chapter 1. Chapter 6 is a reflexive description of the data collection phase and the methods and techniques used. Part 3 is a description of analysis undertaken in this research. Chapter 7 describes how the data was prepared for analysis including the use of NVIVO10 for transcribing, managing and retrieving data. Chapter 8 outlines the process of analysis

undertaken in this research including how the analytical framework developed from the literature and refers to the theoretical framework developed in Chapter 2. Part 4 is about the findings of the research. Chapter 9 delineates the themes emerging from each case separately and delineates and explains the themes and dilemmas that emerge from the cross case comparison. Chapter 10 is a discussion of the outcome of considering the themes and dilemmas alongside the relevant literature and presents the conclusions and implications of the findings of the research.

1.2 Research Focus

The thread that draws this research together is the treatment of children as both current and future citizens who are active as citizens both now and in the future. This approach to children as citizens has implications for practice in Citizenship Education (CE) in terms of determining how it could best be approached to take account of this assumption. It also has implications for Environmental Education and Education for Sustainable Development as practised in the arena of eco clubs where it influences the contribution that eco club participation can make to children's developing attributes.

This conceptualization of children as citizens has implications for how children might engage with research. These implications have consequences for the methodological approach that is appropriate for this research because the methodology must be responsive to the children's interaction with it. However, at a more abstract level it has implications for the way in which knowledge is generated and understood. These implications lead to a conceptualization of epistemology as participatory consciousness. Intertwined with such an epistemology is the understanding of ethics as pervading all dimensions of this research. The research question:

How might participation in primary school eco clubs contribute to children's developing action-competence-associated attributes?

…emerged from my own interest in the action competence approach to teaching and my experience as a science teacher engaged in environmental issues. In this role, the potential for eco club participation to contribute to society's engagement with the idea of democracy became clear to me.

The analytical framework employed in this research is developed from research into both the action competence approach to teaching and CE. The theory-led portion of the framework consists of a list of attributes (referred to as action-competence-associated attributes) that emerge from the literature. The theoretical framework is developed during the process of data analysis to include items gleaned from the data.

The flexibility of this framework is requisite because both action competence and active citizenship are underpinned by notions of the treatment of children as agentive and

active in their own lives; both shaping and shaped by the contexts of their every-day lives.

In responding to the research question outlined above the following findings emerge:

1. Participation in eco clubs in primary schools presents opportunities for members to develop action-competence-associated attributes and these attributes overlap strongly with those implicated in the citizenship education curriculum in England. Thus this research provides valuable support for the continuation and/or development of eco clubs in schools, particularly in schools where active citizenship is a priority.

2. Various factors affect the kinds of opportunities for developing action-competence-associated attributes that arise. The way that the clubs are managed in terms of the focus of the activities undertaken and the way the group is arranged (e.g. into whole group, sub group or individual activities) has an influence here. The approach of the teachers involved in the clubs also has a significant impact on the emerging attributes. For example, the level of motivation of the teacher towards environmental issues can either inhibit or enhance the development of specific attributes such as critical thinking and child initiated direction.

3. The data suggest that the impact that the teacher has can be both intentional and unintentional. Case 2 in this research demonstrates how a teacher's lack of experience and motivation can result in opportunities for the development of critical thinking and child initiated direction whilst Case 1 demonstrates how high levels of commitment to alleviating environmental problems can inhibit the development of these same attributes. When viewed through the lens of 'the ignorant citizen' as described by Biesta (2011), these data suggest how the 'ignorant school teacher' can provide children with everyday experiences that enable or inhibit their development as both current and future citizens.

4. The data collected for this research were analysed using a framework with both theory-led and data-led elements. The theory-led element draws on the research into action competence and it may provide a useful starting point for other

researchers wanting to make use of action competence research to interrogate their own data.

In the next section I elaborate on the background to this research in terms of action competence, active citizenship and participation.

1.3 Background

In this chapter, I describe the three dimensions of the background of this research which are [1] environmental education (EE) and education for sustainable development (ESD), [2] Citizenship Education (CE) in primary schools in England, and [3] participation as an outcome of the United Nations Convention on the Rights of the Child (UNCRC). In so doing I touch on grand scale international and national policies and movements; what might be described as top-down influencers. I also talk about small scale, localised influencers such as the commitment and drive of individual teachers and local environmental issues; what might be described as bottom-up influencers. I start with environmental education and education for sustainable development.

1.3.1 Environmental Education and Education for Sustainable Development

Before getting into the detail of the chapter, I would like to make a point about terminology with regard to the environment in school curricula in England. In the DfE's National Curriculum for England consultation document, 'environment' / environmental' appears in excess of thirty times, whereas 'sustainable' / 'sustainability' does not appear at all (DfE, 2013). This points to a potential change in the terminology that will be used in schools in the future. Moreover, there are other terminological devices in use in academia and practice such as *learning for sustainability* (LfS) (e.g. Gayford, 2009), *environmental and sustainability education* (ESE) (e.g. Ohman and Ohman, 2012) and so forth. The debate about the usefulness of the term *sustainable development* has been around for many years. Authors describe its usefulness as limited due to the proliferation of meanings attached to it (Dobson, 1996; Hopkins *et al.* 1996). These factors suggest a potential need to clarify and/or change the terminology in use to something that takes account of these problems.

For the purposes of this research ESD is understood to be the teaching and learning associated with sustainable development. This might be carried out within institutions or

outside of them and can be an outcome of formal, informal or non-formal approaches. EE is understood to be that aspect of ESD that is explicitly about the environment.

Whilst there is considerable overlap between the two terms, ESD explicitly addresses the economic and social aspects alongside the environmental aspects of this educational field. This is not necessarily the case for EE, which explicitly emphasizes the environment. Although EE has in many ways been assimilated by ESD, it still exists in its own right and has a long history that cannot sufficiently be subsumed by ESD, hence EE continues to be acknowledged as a separate entity (McKeown and Hopkins, 2003).

Concomitantly, the links between schools and sustainable development via the Sustainable Schools Strategy are still influential, despite the withdrawal of the policy by the current government and the changes in the new curriculum consultation document mentioned earlier (DfE, 2013).

Moreover, I argue that the problems associated with the proliferation of meanings of the term *sustainable development* (McKeown and Hopkins, 2003) are largely confined to academic circles when the authors using it are not careful to define how they employ it in their own work. For me, the fact that it is so encompassing is positive as it enables a fuller understanding of the multiplicity of uses and hence, the diversity of implications associated with *sustainable development.* I think this is particularly significant for this term because, although sustainable development has a place in theory, research and theoretical debate, it is in fact, a practical concept that is rooted in impact and application in the world of commerce and industry, society and nature.

For these reasons, I use the acronym EE/ESD in this research to allow me to show that I refer to both *environmental education* and *education for sustainable development* except where I am referring to either of the concepts as a separate entity.

What this discussion identifies are what have been called the three pillars of sustainable development namely: environment, society and economy (Adams, 2006). There is debate about how these three dimensions of sustainable development interact (Adams, 2006) but the fact that they are interconnected remains largely unchallenged. For the purposes of this research what matters is the way in which sustainable development and learning connect. Scott (2012) points out that EE/ESD has a long and rich tradition in schools in England. He points to an HMI environmental education text: *Curriculum 11-*

16: supplementary working papers published in 1979 that identifies the strengths of focusing on environmental education in schools, including the links to personal and hence social development.

Scott and Gough (2003) discuss the way in which learning in the field of EE/ESD is almost invariably linked to change. They identify three approaches to this relationship from the research and literature on EE/ESD. Type 1 approaches have environmental/scientific roots and can be solved through science and technology. Learning about these problems is through increased knowledge. Type 2 approaches cast environmental issues as the symptoms of social and political problems. Learning about these problems involves enabling the learner to choose a solution based on a set of definitive predictions about a future that can be foreseen and about which no uncertainty exists. Type 3 approaches start from the assumption that the future is both unknown and unknowable and hence solutions to environmental problems must account for this uncertainty. The learning that enables positive change in this approach is that which encourages adaptability and responsiveness (for example attributes such as critical thinking and reflection). The kind of learning that is referred to by John Foster (2008) fits into this category as does much of the referred to as learning through participation. Type 1 and 2 approaches are associated with behaviour change whilst Type 3 approaches are associated with sustainability as a continuous learning process. Vare and Scott (2007) suggest that Type 1 and 2 approaches might be described as ESD 1 or learning *for* sustainable development whilst Type 3 approaches might be described as ESD 2 or learning *as* sustainable development. They explain that these two types of ESD are mutually reliant on each other. ESD 1 without ESD 2 may result in changes to environmental issues but no learning whilst ESD 2 without ESD 1 may result in learning but no change.

In this research, I draw on the action competence approach which in Scott and Gough's (2003) categorisation is a Type 3 approach. I use it in an arena (the primary school eco club) which, in England, is largely a combination of Type 1 and 2 approaches. Hence, this research might be seen to represent a demonstration of what Vare and Scott (2007, p. 195) describe as 'the YIN-YANG of ESD'.

This brief exploration of EE/ESD at a general level does not do justice to the field of EE/ESD. However, in this research I focus on a small arena within that field (namely eco clubs as vehicles for EE/ESD in primary schools) and how this arena influences children's

developing attributes for citizenship. To that end the following section explores EE/ESD in the primary school national curriculum.

Environment in the Primary School National Curriculum

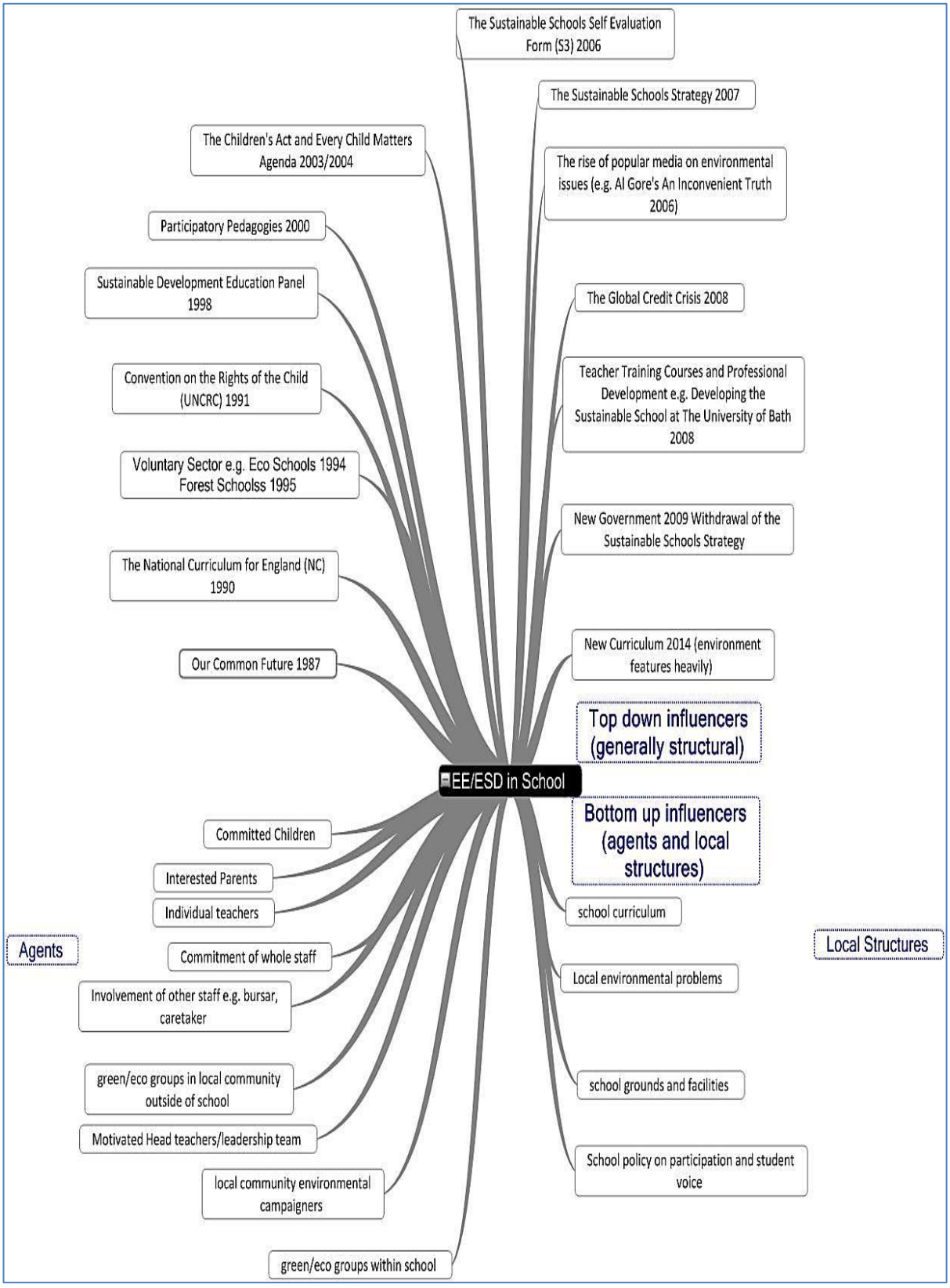
Paul Hart writes: 'Environmental Education is more a philosophy than a curriculum area such as science' (Hart, P. 2008; p.197). This statement rings true. This is not just because it does not exist as a standalone subject in school curricula but because a person committed to educational value of environmental matters will intuitively identify these values in most of what they do. If what you do is teach then it is likely that you will find applications for environmental matters in everything you do. One striking example of this for me occurred during the course of my fieldwork in Case 1 when I arrived for my observation of the eco club to find a pile of sticks on the floor of the classroom. When I asked what they were for an enthusiastic club member told me that they were for teaching maths. The teacher in charge of the club (Tic1) could have used anything to do this (pencils would have been more easily available and less messy!). But she chose to use a pile of dirty, broken up sticks that she and her students collected from the school's wildlife area. This example demonstrates Paul Hart's idea above. In some senses, for a committed teacher whether the formal curriculum includes EE/ESD or not is immaterial. However, an understanding of the development of EE/ESD in the curriculum in primary schools in England is useful because it shows how environmental issues have entered into policy discussions at the national level. This is likely to strengthen the support for efforts of committed teachers (and others) working with children in schools.

In this section, I describe how EE/ESD has evolved in the National Curriculum in England. Thus, this section addresses the top-down dimensions of the manner in which EE/ESD is addressed in schools in England. Figure 1.3.1a below attempts to map the main factors that interact to produce the lived experience of EE/ESD of the pupils in individual schools. It is not the scope of this research to address all of these influencers; however, an overview is helpful to provide a context for the research. These influencers will be re-visited in the case descriptions in the analysis sections of this paper. Their purpose here is to synthesise the literature, setting out the kinds of agents and structures that might be encountered by researchers in schools interested in understanding how EE/ESD emerges in the specific context of their research. It is notable that this figure shows arrows going in one direction only. This is not meant to suggest that flow of influence is one directional. In fact, for most of these factors there is likely to be a bidirectional

influence. However, in this figure the intention is to represent the factors that may influence the situation in schools and *not* the reverse. Moreover, the generality of the term *EE/ESD in schools* is noted. It would be possible to segment this into its various forms (e.g. formal learning through curriculum delivery, informal learning through time spent outdoors during lunch, non-formal learning in clubs and school trips) but that is also beyond the scope of this research.

The map draws on a number of sources including Gayford's research on Sustainable Schools (Gayford, 2009 and 2010), Scott, Barratt Hacking and Lee's (2009) research on the evidence of the impact of Sustainable Schools, Scott's (2009; 2013) exploration of the issues of developing sustainable schools, Chatzifotiou's (2006) paper on the progression of environmental education in schools and Jackson *et al.*'s (2009) research on role of leadership in sustainable schools.

Figure 1.3.1a - Bottom- up and Top-down Influencers on EE/ESD in Primary Schools in England



Chatzifotiou (2006) provides an overview of the progression of environmental education (EE) in the National Curriculum in England from its inception in the first version of the National Curriculum (NC) in England released in 1990 until 2006 when her paper was written. Thus, EE first appears in the National Curriculum in 1990 as a cross-curricula theme (alongside CE) addressed in the publication: 'Curriculum guidance 7: environmental education' (NCC, 1990). This publication lays out a framework for teaching EE based on the three themes from the intergovernmental conference on EE at Tbilisi in 1978 namely: education *about*, *for* and *in/through* the environment. It is noteworthy that these cross-curricula themes are not statutory. In the revised curriculum of 1995 the cross-curricula themes were dropped. EE now featured in the attainment targets for the core subjects, for example science and geography. By 2006, ESD starts to emerge in the curriculum and in 2007 the then labour government launched its Sustainable Schools Strategy (DCSF, 2007).

The source for this change from EE to ESD was the report 'Our Common Future' released by the Brundtland Commission in 1987 (World Commission on Environment and Development (WCED), 1987). It was here that the term *sustainable development* was officially adopted at the international level. The adoption of the term was an attempt to integrate the interdependent and interrelated dimensions: environment, economy and society discussed previously. The link to education in England was made at the government level in 1998 when the Sustainable Development Education Panel (SDEP) was set up. The purpose of this panel was to 'consider a broad interpretation of education for sustainable development and how these issues might be developed in schools […], and to make recommendations to the government for action in England' (Gayford, 2009; p. 7; SDEP, 1998). To follow up on this, Ofsted released: 'Taking the first step forward – towards an education for learning for sustainability' in 2003 (Ofsted, 2003). This document provided examples of good practice encountered by Ofsted inspectors in schools for other schools to consult to facilitate their EE/ESD work. It was at this point that the shift in terminology from EE to ESD manifested itself at the school level. Because it became part of the terminology used at the policy level, and importantly, the school inspection level, schools began to adopt it.

In 2006, the DCSF released its Sustainable Schools Self Evaluation form (known as the S3). This gave schools a tool with which to evaluate their development towards sustainability. This document was very similar to one already familiar to schools (the SEF

or Self Evaluation Form) and which was useful because it supported preparation for Ofsted inspections. All of these factors influenced the credibility attached to EE/ESD by teachers and school leaders. Gayford (2009) and Scott (2013) identify a number of other policy initiatives that have influenced the uptake of EE/ESD in schools including the Every Child Matters (ECM) agenda and its adjunct, the Children's Act of 2003/2004. The Children's Act facilitated the rise in participatory approaches to teaching in schools. This led to an increased commitment to pupil voice and providing authentic opportunities for children to be involved in making decisions about pertinent issues. A sensible assumption is that the rise in popularity of school councils and eco councils is an outcome of these changes in policy and practice (Carlsson and Sanders, 2008).

The ECM agenda was an encompassing approach to children and teaching; including participation and a focus on well-being and making a positive contribution. These dimensions are more easily addressed by a school whose culture comprises the philosophies inherent in a broad interpretation of EE/ESD such as that described below. This contention is supported by the SDC's publication 'Every Child's Future Matters' which couches the ECM agenda in terms of EE/ESD; hence strengthening the links between the welfare and wellbeing of children and EE/ESD.

Other concurrent influencers on the uptake of EE/ESD such as Eco-Schools and Forest Schools and teacher professional development programmes illustrated in Figure 1.3.1a are discussed in Chapter 2.4. Worth noting here is the fact that the new curriculum due to be released in 2014 maintains a commitment to teaching about environmental issues. An indicator of this is the fact that, in the consultation document of the draft school curriculum for 2014, the word *environment* appears thirty-one times (in different guises) in attainment targets across all of the major subjects. As such, it represents a major theme in the curriculum. By comparison, the word *health* appears twenty-one times (DfE, 2013). This comparison underlines the fact that EE/ESD continues to be considered an important element of formal learning in England, despite the withdrawal of the previous government's Sustainable School's Strategy and the archiving of much of the associated research.

This discussion of EE/ESD in schools covered some of the main drivers behind the rise of the environment in school curricula. Other factors such as the 2006 Learning Outside the Classroom Manifesto influenced the uptake of the outdoor learning aspect of environmental education. A good indicator of this is the rise in popularity of Forest

Schools Programme that features across all phases of schools in England but particularly in primary schools.

Gayford (2010) identifies teacher training and continuous professional development from his teacher interviews as an important element of the success of whole school approaches to sustainability; thus this has been included as an influencer on EE/ESD in the school.

Other international events that have had an impact include the Belgrade Charter (UNESCO-UNEP, 1976), the Tbilisi Declaration (UNESCO-UNEP, 1978), Agenda 21and the Earth Summit in Rio de Janeiro (United Nations Conference on the Environment and Development (UNCED), 1992), the UN Decade of Education for Sustainable Development (2005-2014) (UNESCO, 2003) and the United Nations Conference on Sustainable Development (UNCSD) Rio+20 conference that took place in 2012.

The bottom-up influencers on EE/ESD in schools are harder to identify because they vary from school to school. Research has shown that individual active citizens can have a significant impact on the way EE/ESD is treated in schools. Moreover, the heuristic in Figure 1.3.1a implies that the bottom-up and top-down influencers are separate. This is problematic because in many cases there will be links between the structures identified as top-down influencers and the agents identified as bottom-up influencers. The complex milieu of experience, identity, values, beliefs and motives suggested by the research of Paul Hart (2008) and colleagues is implicated here. In fact, it is possible to argue that the influence of most of these structures is mediated by one or more of the agents identified in the heuristic. It may be that the educational activity is that which occurs at the nexus between the agent and the structure. However, for this research the simplistic version of this model suffices as it draws attention to the different themes identified from the data collected in this research. Any more detailed analysis is not obtainable from the literature, nor is it warranted to address the research question. It may however, be a worthwhile extension of this research to investigate how these structures are mediated by these agents.

I have chosen to categorize school leaders who are supportive of and committed to EE/ESD as bottom-up influencers. It could be argued that their role at the top of the hierarchy within the schools they lead puts them in the top-down category. However in this model I have made the division between bottom-up and top-down based on

proximity to the school. So, individuals working from within the school have been categorized as bottom-up influencers whilst influencers from without have been categorized as top-down. Moreover, top-down influencers tend to be structural (e.g. governmental policy, NGOs and so forth) while bottom-up influencers are usually individuals who are particularly agentive in the school.

Research with headteachers who consider EE/ESD to be a guiding principle defining their leadership approach has demonstrated that the role of the headteacher is highly significant in determining the success of a school's EE/ESD programme (Gayford, 2009; Jackson, 2009; Scott, 2012). Much of this research was carried out during the time when the Sustainable Schools Strategy was active; hence the research was investigating more than just the manner in which the environment was being treated in the curriculum. The research for these papers investigated schools that were attempting to assimilate sustainability into all aspects of their functioning (see for The National Sustainable Schools Framework: The Eight Doorways, DCSF, 2007). However, these findings are relevant to this research as the effectiveness with which eco clubs in schools function is likely to be either undermined or facilitated by the headteacher's approach to environmental and sustainability matters.

Paul Hart and his colleagues studied values and attitudes of Canadian teachers with a pedagogical focus on EE/ESD (Hart, 2008). They found the impact of mentors to be considerable. Although their research appears to have raised many unanswered questions, it does point to the role of mentors in making participation in EE meaningful. Their findings suggest that the most impactful mentors are those that encourage learners to reflect on the impact of participation on their identity formation. In this research questions of identity are not addressed, however, the role of the teacher in engaging children actively with the group and its undertakings emerges as a theme from the data. Thus, the role of the teacher as a bottom-up influencer in this research should be discussed. Teachers are also identified in Blanchet-Cohen's (2008) study of children attending an international children's environment conference in the US. As part of this research she surveys the sources of learning about the environment. Teachers, parents and other adults emerge in her data as having contributed to learning about the environment. Gayford's (2010) discussion of effective pedagogy on learning for sustainability in schools addresses the importance of teachers' on-going and developing expertise in the subject as an important determinant of the effectiveness of pedagogy in

this field. Inherent to this discussion is the assumption that teachers are significant influencers of EE/ESD in schools.

Figure 1.3.1a identifies *committed children* as bottom-up influencers. This assertion is inferred from literature on environmental education. For example, Blanchet-Cohen (2008) identifies child agency as an integrating element of children's environmental involvement. The children she worked with in her research were identified as being particularly active with respect to the environment. Her research evinces the impact that children can have on EE/ESD in schools. Barratt Hacking *et al.* (2007) identify how children can influence EE/ESD in schools when they are treated as collaborators in research about their local environments. In their report entitled 'Children as catalysts of environmental change' Uzzell and colleagues (Uzell *et al.*,1994) explore the potential of children to have an impact on environmental issues. They conclude that, within certain parameters the potential is significant.

In the next section I briefly explore environmental education in the context of the Danish schooling system to highlight some of the differences. These differences contextualize the treatment of the action competence approach in this research.

Environmental Education in Denmark

Environmental Education in Denmark is strongly influenced by the action competence approach which forms the conceptual framework of this research. As will be explained in Chapter 2, the conceptual framework (action competence) has both strengths and limitations. One of its limitations is the fact that it is culturally more concordant with the kind of work that takes place in the Danish school system, as this is where it developed. Action competence is a feature of the Danish School Curriculum (Schnack, 2008). Hence school based practitioners in health and environmental education are likely to have encountered it and have some idea of its meaning and significance for the pedagogical approaches and curricula they employ.

Furthermore, the theory surrounding action competence draws on the cultural context in which it developed. Breiting and Wickenberg (2010, p. 10) describe the political ethos of Denmark as of 'high social responsibility, with a particular focus on social justice, redistribution, participation and equality'. As described in Chapter 2.1, these features can be discerned within action competence. The context of this description of political

ethos by Breiting and Wickenberg (2010) is a paper on the progressive development of environmental education in Denmark and Sweden. Their description identifies a number of other distinguishing features that can be used to help to differentiate between pedagogy with regard to citizenship and environmental education in England and Denmark. Chief amongst these is the bottom-up approach where citizens and local government played an important role in shaping political responses to environmental crises that is credited for the early uptake of environmental education in Danish school curricula. Although Breiting and Wickenberg are writing specifically about the progressive development of environmental education, the interdependence of environmental education and active citizenship are highlighted in their paper.

The authors provide an historical account starting in the late 1960s, which identifies the small size and relative vulnerability of Denmark to environmental degradation as a driver of governmental interventions to address these challenges. Significantly, these governmental interventions were the result of bottom-up initiatives to educate the general public through raising awareness both through schools and the popular media. The paper's focus is on moves by Danish teachers to respond to levels of water pollution that became hazardous to health in the late 1960s. The initiatives they described led to changes in the curricula of various subjects such that they included reference to environmental education. Moreover, in 1975 a new subject called Contemporary Studies was introduced in lower secondary schools that addressed contemporary issues of importance to society and politics. Environmental issues were generally seen to be a relevant here. The curriculum also included the general perspective that 'teaching should facilitate students' interest in political issues' (Breiting and Wickenberg, 2010, p. 20).

In contrast, the situation in England is quite different. Despite the fact environmental education took place in schools before then, legislation its teaching did not materialise until 1990 with the first National Curriculum where it was incorporated as a cross curricula theme (Chatzifitiou, 2006). The way EE was addressed changed over the next few years when the cross curricula themes were dropped and EE was incorporated into a number of the statutory subjects of the curriculum where it still features in the curriculum today and in the curriculum planned for 2014. Figure 1.3.1a illustrates the main influencers on the progress of EE/ESD in the curriculum in England. Here, in comparison to the situation in Denmark, a larger number of top-down initiatives can be identified.

The role of participation in English primary schools is addressed in Chapter 1.5 and 2.5. The situation in Denmark is reported to be quite different. Participation underpins the action competence approach described in Chapter 2.2 and, since the action competence approach influences the Danish school curriculum it influences pedagogy in Denmark. Schnack (2008) describes the pervasiveness of participatory pedagogy in the form of co-determination in Denmark. In his understanding, participatory approaches are highly influential in the Danish schooling system.

This discussion of EE/ESD in Denmark helps to set the scene for the description of the action competence approach in Chapter 2. In the next section, I describe CE and its development of in the context of the curriculum in schools in England

1.3.2 Citizenship Education (CE)

CE was not part of the original National Curriculum in England. However in 2002, following a review commissioned by the then Labour Government, it became a mandatory part of the curriculum for Key Stage 3 and 4. In primary schools, the guidelines for teaching CE form part of the joint non-statutory framework for PSHE (Personal, Social and Health Education) and CE.

Before that, the teaching of citizenship in schools was sporadic (Heater, 2001). In a review of the literature pertaining to the history of CE in England, Heater (2001) points to a number of reasons for this; most of which are attributable to the ideals of a liberal education system such as that found in England. In such an education system, the need to avoid indoctrination overrides the desire to teach about the way a country is governed and discourages government initiatives that stipulate doing so. Along these lines, Frazer (2000) describes the antipathy to government interference in education in England; highlighting the contradiction between educating citizens for democracy and enabling children to develop their capacity for autonomous living. The issue here is that the teaching of what is expected of an individual living in a democracy robs the learner of the opportunity to learn these things for themselves. It is in the autonomous search for understanding that the capacity for autonomous living develops. Hence, the teaching of democratic principles counteracts the capacity and motivation for living by them.

Authors also identify the class system as a determinant of the low levels of CE in England (Heater, 2001). In a system where the general public (i.e. the lower classes) does not

expect to take up a position in government, the general public is likely to be uninterested and even apathetic about government and its works. Historically this issue may have had some traction but the development of meritocratic systems such as grammar schools may have eroded some of the influence of the class system; the programme of free schools and academies is designed to continue reducing its influence.

A further reason pertains to the determination of teachers and policy makers to avoid allowing schools to become places where opportunities exist for causing children to assimilate the personal political views of an individual. In 1996, The Education Act enshrined this in law by making it statutory for schools to forbid 'the promotion of partisan political views in the teaching of any subject in the school' (Heater, 2001).

In a review of the academic literature on CE in England since 1995, Osler and Starkey (2006) expose the problem of teaching democratic participation in schools, which are managed according to authoritarian principles. The dichotomy between the encouragement of democratic and participatory behaviour in an environment suffused with the authoritarian control of behaviour and development creates conflicts that have been found to be in some ways insurmountable.

A further problem particularly relevant to this research is the way in which children are treated as individuals who will one day be citizens (children as *becomings*) rather than citizens in the here and now (children as *beings*) (Uprichard, 2008). This element of CE is maintained in the framework document for consultation for the 2014 National Curriculum as illustrated by the following quote:

'A high-quality CE helps to provide pupils with knowledge, skills and understanding to prepare them to play a full and active part in society. [...] It should also prepare pupils to take their place in society as responsible citizens by providing them with the skills and knowledge to manage their money well and make sound financial decisions.' (DfE 2013, p. 150).

The focus here is clear. CE is not about how children function in society as children, as they are, but on how capable they will be to function in society when they reach majority age; in other words, when they are old enough to vote. Osler and Starkey (2006) express the same view in their review of the research into Education for Democratic Citizenship.

This approach is at odds with the aims of the United Nations Convention on the Rights of the Child (UNCRC), which delineates the requirement to give children and young people a platform to express their views on matters that are important to them, their rights as citizens of today and of the future. Much has been written on this matter but what is particularly relevant here is the notion of children both as *beings* and *becomings* (Uprichard, 2008). It is of course important that children learn how to function in a democracy when they participate in it as adults; but the fact that they also participate in it as children is equally significant. There is a danger that treating their activities (such as volunteering and participation in pressure groups in schools) only as preparation for adult life diminishes the authenticity of what they are doing, and concomitantly, the learning and development associated with these activities. One way of overcoming these problems is to treat both adults and children as both *beings* and *becomings*. Mannion and I'Anson (2004) make a strong case for this approach, arguing that both adult and child agency are interconnected and co-dependant and, in working together, each shapes the other's understanding and achievements. Although this latter point does not explain the historical reluctance of the state to support CE through the curriculum in England prior to 2002, it is a good example of the complications involved in teaching about matters pertaining to citizenship. The need to account for human rights that include children as existing and agentive citizens (and associated international policy such as the UNCRC) has to be balanced against the need to prepare children for participating as adults in society. The appropriate position is difficult to identify but it is sure to be one that is dynamic and responsive to the changing needs of a society influenced by diversity and global change.

Despite these issues identified by various authors, Heater traces some form of CE in England back to the late 19th century mainly through the sale of textbooks such as Frederick Wicks' 'The British Constitution and Government' published in 1871 and H. O. Arnold Foster's *Citizen Reader* from 1885. At this time, leadership on CE was provided by individual teachers and schools and was sporadic and uncoordinated. In 1934 around the time of the accession of Nazism in Germany and the perceived threat to liberal education systems and liberal democracies, the Association of Education for Citizenship (AEC) was established. The AEC was not very effective in instituting CE in policy but it did raise the issue in political and state circles. In 1949, the Ministry for Education published *Citizens Growing Up*, the first official CE publication. The next official publication was the National Curriculum Council's *Curriculum Guidance Eight: Education for Citizenship*

(National Curriculum Council, 1990) which treated CE as a cross curricula theme. The cross curricula themes are often criticised for being unsuccessfully and insufficiently addressed in schools (Frazer, 2000). This coupled with increasing concern across Europe and within England about low levels of youth engagement with political and community life (QCA 1998; Frazer, 2000; Heater, 2001; Keating *et al.,* 2011; Hoskins, 2012) had a strong influence on the institution of CE as a new subject in the National Curriculum in 2002.

In 1997, an education White Paper entitled *Excellence in Schools* advocated the setting up of an advisory group on education for citizenship in schools. An outcome of that advisory group's work is what is now commonly referred to as the Crick Report: a Qualifications and Curriculum Agency (QCA) publication entitled *Education for citizenship and the teaching of democracy in schools: Final report of the Advisory Group on Citizenship*. The report contains a quote from a group known as Citizenship 2000 group formed in 1997 including representation from the Citizenship Foundation, the Association for the Teaching of the Social Sciences (ATSS), the Secondary Heads Association (SHA), and the Hansard Society.

'Citizenship Education in schools and colleges is too important to be left to chance; recent research has underlined the weakness of civic discourse in this country. Citizenship Education is urgently needed to address this historic deficit if we are to avoid a further decline in the quality of our public life and if we are to prepare all young people for informed participation, not only in a more open United Kingdom, but also in Europe and the wider world, as we move into the next century. This will not happen unless there is a firm political and professional commitment to education for citizenship.' (QCA, 1998, p14).

This highly influential report was followed by the institution of CE as a compulsory subject in the National Curriculum in 2002, to be maintained in the new curriculum planned for release in 2014.

What the Advisory Group mean by CE is significant as it formed the basis of both the statutory and non-statutory guidelines about CE in the National Curriculum of primary and secondary schools. The report uses T.H. Marshall's three elements of active citizenship: the civil, the political and the social. The civil element involves engagement with and understanding of rights and responsibilities in respect of equality and diversity,

discrimination and national identity, religion and press, freedom of speech and expression. It also includes participation in voluntary organisations and pressure groups. The social element refers to how individuals interact and how they consider the implications of their actions for other individuals both within and beyond their daily encounters and experiences. This element includes dispositions such as confidence and responsibility. The notion of horizontal participation aligns with the civil and social elements of CE (Jochum *et al.,* 2005; Keating *et al,* 2009). The political element necessitates political literacy in terms of understanding justice and its functioning, parliament and its functioning, and electoral rights and responsibilities. It includes participation in electoral processes and aligns with the notion of vertical participation in community and local initiatives (Jochum *et al.,* 2005; Keating *et al,* 2009).

What emerges from attempts to describe these three elements is that their separation is somewhat artificial; it is hard to imagine understanding justice (an aspect of the political element) without being aware of the impact of discrimination (an aspect of the civil element) or feeling responsible for one's own actions (an aspect of the social element). Thus, there is a case for a more holistic conceptualisation of citizenship and CE. It may be useful to define citizenship in terms of these elements to enable a complete treatment of it in education in schools; however, there is a danger that, in fragmenting citizenship in this way, we lose sight of what is happening at the site of assimilation and aggregation. The child who is the target of our pedagogical industry assimilates the learning, synthesising it across different spheres of experience and arenas of practice. Researchers such as Biesta (Biesta *et al*, 2009) describe the importance of an holistic approach to understanding learning for active citizenship or education for democratic citizenship. What happens at the interface between the pedagogical intentions and the lived experience of the child as well as the interconnectedness of the Marshall's three elements are important aspects worthy of consideration by policy makers and practitioners in this arena. Consideration of these factors would necessitate an holistic approach to citizenship.

In England over the period between 2001 and 2010, the CE Longitudinal Study (CELS) researched and reported on the implementation and impact of CE in the statutory curriculum in secondary schools. This research followed a cohort of children from age eleven to age eighteen surveying them at intervals of two years between 2001 and 2010. Additionally a biennial survey of about 7500 pupils spread evenly across Years 8, 10 and

12 was carried out. A new sample of 300 schools and colleges was selected each time the survey was run. A longitudinal qualitative study of twelve schools was also carried out. These schools were visited every two years and interviews were carried out with citizenship co-ordinators, school leaders and pupils. The aims of this research were to investigate how young people's citizenship practices change over time, what influenced these changes, and what would make CE more effective.

The findings from this research suggest that the institution of CE as a statutory subject in the curriculum has met with some successes, particularly as discrete lessons by teachers qualified as citizenship educators; and when it has been formally examined. Furthermore, the research recommends that CE be a feature of the whole schooling life of the child. The report also states that CE in lessons is not the only factor that determines an individual's citizenship activity. Factors such as age (Keating *et al*. 2011), and the individual's previous attitudes towards citizenship were particularly influential. These factors suggest support for the development of CE at the primary school level. If primary school children can be encouraged to develop positive attitudes to citizenship through involvement in, for example, eco clubs the positive outcomes of CE at the secondary school level might be enhanced.

School or student councils merit further discussion. The introduction of CE into the national curriculum appears to have had a significant impact on the popularity of school councils. They offer schools a convenient and effective means of enabling a participatory approach to CE in schools (Deuchar, 2009). These school councils sometimes overlap with eco clubs and often have environmental goals.

1.3.3 Drawing together CE and EE/ESD

Dobson (2003) and Lawson (2010) both describe how EE/ESD and CE have become linked in the UK. Oulton *et al.* (2004) also make a link between EE/ESD and CE through the medium of controversial issues.

Dobson focuses his description on the co-evolution of EE and CE in the curriculum including their status as cross-curricula themes mentioned previously in this chapter. For Dobson the development of the idea of an ecological citizenship is central. Ecological citizenship suggests the need for a different political landscape that is not beholden to the principles of liberalism. In such a landscape the individual's behaviour is modified

and determined by a commitment to a reduced ecological footprint. Although this might be an effective means of increasing sustainability of the populations on the planet, it requires that individual values are realigned with the principles of sustainability. This is inimical to the concepts of emancipation and freedom that underpin notions of a liberal society, hence ecological citizenship is not concordant with the approach taken in this research. The aim of this research is not to suggest that citizenship should be repurposed to enable the creation of an equitable society driven by the need to decarbonize and live less materially. Rather, it is to show how children participating in activities with an environmental focus have the opportunity to develop attributes that are concordant with citizenship through subjectification in a radical democracy (Biesta, 2011). Democracy in this instantiation refers to the active shaping and reshaping of both structures and agents through participative engagement with challenges and issues that arise from the needs of individuals and communities in changing societies (See Chapter 2.2).

Lawson (2010) talks about the introduction of environmental issues into CE and active citizenship and puts a date on this based on her review of the literature at about 1996. Lawson's characterization of active citizenship informs the theoretical perspectives underpinning this research and is reviewed in Chapter 2.2.

What is significant for this introduction is that the links between EE and CE are strong and historically evident. A pertinent area of overlap between these two strands of this research is their association with the concept of participation. The development of the theory of participation will be reviewed in Chapter 2.4. Here I offer a brief exploration of its relevance to this research.

1.3.4 Participation

In practice, participation involves the co-determination and ownership of learning as well as the equitable distribution of leadership and influence within a collective encounter involving a group of individuals. It assumes that all individuals have a 'voice' and are socially agentive/active. It usually involves bottom-up instantiations of power and it aims at the empowerment of participants. However, participation is also about the generation of knowledge through participatory consciousness (Heshusius, 1994). For Dewey it underpins the idea of a transactional methodology. Here participation is something which, through its actualisation, results in a modification of those engaged in it (Dewey,

1916; Biesta, 2010a). This methodological instantiation of participation will be discussed in Chapter 3. In this chapter, the way that participation emerges in EE/ESD and CE is discussed.

Paul Hart (2008a and 2008b) describes EE as participatory practice and states that 'to be an environmental educator is to understand what it means to know based on a participative relationship with the world' (Paul Hart, 2008a; p. 198). The implication here is that it is only through doing that a learner can gain an environmental education. Epistemologically speaking, knowledge in EE is founded on participation. EE is something that happens when people are involved in encounters with an environmental bent; where they are learning *through* activities with an environmental focus. EE is education *through* the environment; not education *about* the environment (Sterling, 2003).

This way of approaching EE is concordant with action competence as a pedagogical approach. Action competence will be described in detail in Chapter 2 so what follows here is simply for the purposes of linking it to participation. Practitioners and researchers in the field of EE design teaching programmes from an action competence perspective. The aim of these programmes is to provide learners with opportunities to engage in encounters shaped by their intentional choices that have authentic impacts (Mogensen and Schnack, 2010). Thus in action competence, participation is the way in which individuals work together on a (health or environmental) project that has practical consequences for their everyday lives. Their participation matters on the level of, how they are engaged in identifying the problem and envisioning solutions to it, how they facilitate instituting changes to solve the problem and how they relate to their co-workers. At all of these levels, individuals are given the opportunity to voice their opinions about the problem and lead the interventions. Ownership of the problem and its solutions lies with the individuals involved.

Bringing together these two streams of thought about what EE is and how it looks in a programme within the action competence sphere is helpful. In this sense, participatory theory plays an integrating role, running through action competence situated within EE.

John Dewey's work on participation is particularly relevant to both action competence and citizenship education as it is applied to this research. Schnack cites Dewey as influential in the action competence approach (Schnack 2000); particularly with reference to

conceptualisations of experience. Moreover, Dewey's conceptualisation of participation resonates for both action competence (as pedagogy in the field of EE) and CE. Biesta describes Dewey's position on participation (written in 1916) as that 'which modifies the disposition of both parties who undertake it.' Thus, 'Participation is neither about physical proximity nor about the situation in which all work towards a common end'. It is only when all 'are *cognizant* of the common end and all [are] interested in it' that there is real participation.' (Dewey cited by Biesta, 2010a. p.714).

Here Dewey is writing about Education and Democracy. For him the two are inextricably linked through the mechanism of participation. As revealed by the quote from Paul Hart cited previously, participation is an integral part of EE. In fact, that quote is taken from a book entitled *Participation and learning: perspectives on education and the environment, health and sustainability.* This book includes contributions from a range of highly influential authors who posit the significance of the intercept of participation and EE and illustrates the link between EE and participation as pedagogy.

Dewey's conceptualisation of participation also forms the foundation for Biesta's approach to CE that frames this research. Moreover, the work of Biesta that is influential in framing CE in this research is founded on Dewey's conceptualisation of participation. (This will be explained in Chapter 2.)

As previously stated, CE, is founded on participatory pedagogies. Maitles and Deuchar (2006) quote a pupil from their study of CE in Scottish schools: 'we don't learn democracy, we live it.' In 2007, the Leeds Development Education Centre published a report of its findings from research project spanning one year that investigated good practice in the arena of active citizenship skills in excess of 57 different projects. Their overarching finding was that a common strategy of good practice is the involvement of learners in the development of programmes for the active CE. Participation is also a significant element of the findings of the CELS report (Keating et al., 2010).

The Convention on the Rights of the Child (UNCRC), ratified by the United Nations in 1989, has had a strong influence on the popularity of participatory approaches to education. Articles 12 and 13 refer to the child's right to have freedom of expression and to have opportunities to have their views heard on matters pertinent to them. Aligned with the CRC, Roger Hart's seminal paper published by UNICEF in 1992 (Hart, R. 1992) has had a strong influence on participation theory in education. At the time, there

was little literature on the subject (Hart, R., 2008) but since then literature on participation theory has burgeoned.

In schools, the participatory approach to learning has garnered support because there is considerable evidence that a democratic, inclusive approach to school governance can have a positive effect on children's political and civic engagement (Keating *et al.,* 2011; Robinson, 2012). Robinson (2012) mentions a number of policy initiatives that were born out of the UNCRC such as the document entitled "Working Together: Listening to the Voices of Children and Young People" (DCFS, 2008). The popularity of student or school councils described in Chapter 1.2, is one example of how schools have approached the issue.

1.4 Conclusion

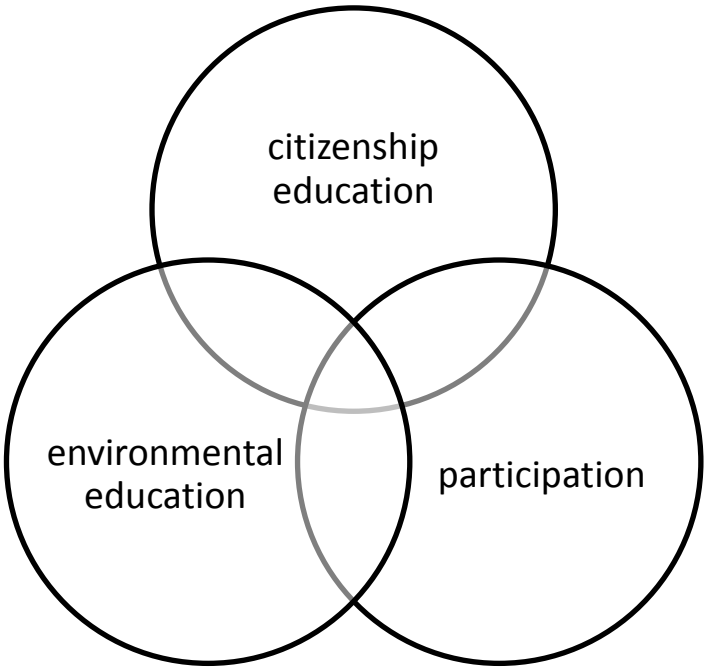


Figure 1.4a: To illustrate the overlaps between environmental education, citizenship education and participation

In this chapter, I have positioned this research in the ground covered by EE through the action competence approach, CE and participation. Figure 1.4a illustrates these overlaps. This research is positioned in the section where all three fields of research overlap.

Although action competence might be situated elsewhere in this diagram, it is certainly situated in this overlapping section.

In the next chapter, I will focus the EE aspect of this research on action competence, describing its development, reviewing its significance and explaining its purpose in this research. I will also position the research within the diverse and contested field of research in CE. I will extend the explanation of how participatory theory is applied in this research and I will review the research and literature on eco clubs. The aim of each of these sections is to both reveal the theoretical perspectives that influence this research and show how this research will contribute to the development of knowledge in the field of EE.

Chapter 2

Theoretical Perspectives

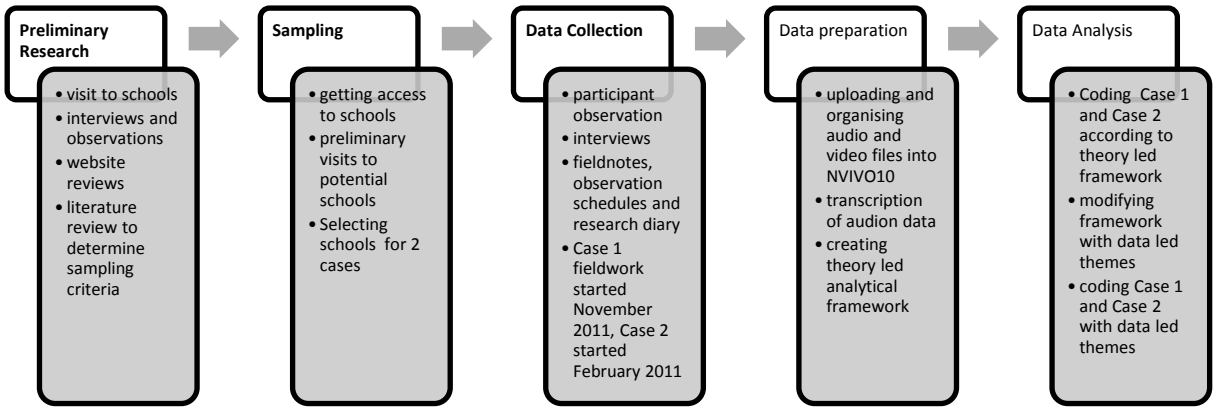


Figure 1: To show the stages of the fieldwork including preliminary research, sampling and data collection phases and the data preparation and data analysis phases.

2.1 Introduction

In this chapter, I start by describing action competence theory and I review the associated literature. I identify a contested area in the theory that has arisen because of a debate amongst the progenitors of the theory. I position my research in this review by explaining how the resolution of this debate will make action competence research more broadly applicable.

I then review the literature on the citizenship curriculum in England. I show how my research generates knowledge that may develop understanding of this aspect of the school curriculum in England.

Then I delineate the literature on participatory pedagogy in EE and review the aspects of this literature that are relevant to this research. I show how a participatory approach to learning emerges as an essential characteristic of both action competence and CE.

Next, I describe eco clubs in England and review the literature on eco clubs at the school level. I position this research and myself in relation to the literature on eco clubs.

I conclude by presenting the main justifications for undertaking this research.

2.2 Action Competence

2.2.1 Background

Action competence developed as an approach to teaching environmental and health education in the Danish school system where it has existed in some form or another since the early 1990s (Fontes, 2004, Mogensen and Schnack, 2010). Fontes (Fontes, 2004) gives a comprehensive account of its development from its inception in print in a paper written by Jensen in 1993. Jensen's paper was written following the first meeting of the project entitled 'Children as Catalysts of Global Environmental Change' (Uzzell *et al.,* 1994).

The cultural climate in which the action competence approach to teaching developed, has been influenced and shaped by the philosophies of *bildung* and 'critical theory' (Breiting and Wickenberg, 2010; Mogensen and Schnack, 2010) These philosophies provide the foundations for the theory that has grown up around the action competence approach to teaching. In this section, I describe the main features of *bildung* and 'critical theory', which will form the groundwork for the review of the literature pertaining to the theory of action competence that follows.

Bildung

Bildung is an educational concept that developed in Germany. It has many progenitors, one of the best known of whom is Wilhelm Von Humboldt (See Humboldt, c1793). For him and many others (although variously expressed) *bildung* is about the development of the self to the fulfilment of one's capabilities through learning that continues throughout the life of the individual (Schnack, 2008). This continuous process of development entails socialisation through a developing network of functioning relationships with other individuals. An education that emancipates the individual to participate fully in the social structures in which they function is essential if an individual is to be capable of striving for *bildung* (Sorkin, 1983). Furthermore, *bildung* is an ideal state and as such, it is not a state that an individual can attain. It is in the striving towards *bildung* that the individual's attributes are developed.

The influence of the three factors noted above, namely, the development of the self, doing so in relation to others and the nature of *bildung* as an ideal, are identifiable in the literature pertaining to the action competence approach to teaching.

Another link between action competence and *bildung* is Humbolt's definition of action. Humboldt employs action to indicate freedom and independent thought. Someone can take action when they are capable of determining right from wrong for themselves, when they are able to discern between different moral positions and willing to take a stand of their own. In action competence theory, action is defined as doing something with *intention* and *direction*. A behaviour can only be classed as an action, if the individual decided to do it for her/himself and is doing it to achieve a purpose that the actor selected. As such, action is the result of the freedom to make choices and the ability to make decisions independently. The links between Humbolt's definition of action and the way action is used in action competence theory are clear. The distinctions between action and activity and action and behaviour change are elaborated further later in this chapter.

Critical Social Theory

Critical social theory has its roots in Marxism. A central tenet of critical social theory is the need for change in social structures and institutions such that they conform to a predetermined idea of a just and fair society. Research within critical social theory therefore does more than describe social situations. A socially critical researcher will have a clearly delineated agenda against which to compare the social entity s/he is describing and will make judgements about its quality and suggestions about how it can change. It has a normative dimension. To view education or schools from a socially critical perspective would be to investigate what is taking place and then evaluate it against the researcher's interpretation of the best possible situation. As such, it is not compatible with a liberal approach to education. The liberal educator's central tenet is the development of the learners' competence to develop their own ideas about society through providing opportunities for them to make choices.

The system of education in England is based on the principles of liberal education. Liberal Education is tied up with political liberalism. In *On Liberty* Mill (Mill, 1859) writes that individuals should have liberty of thought and feeling, of taste and pursuit, and of union with others so long as having these liberties does not do harm to others and so

long as the individuals who hold these liberties are of an appropriate age. The laws that are appropriate to ensure these liberties are those which enable the individual to hold them, not those which constrain individuals or compel them to live according to what the majority deem to be personally and socially moral. Berlin (1969) presents a development and critique Mill's concept of liberty into positive and negative freedom. Negative freedom is the freedom from interference by others. It is the space in which an individual can act unencumbered by the power and desires of others. Questions about how to define this space, about how to decide where this space is and when having this freedom starts to curtail the freedom of others are appropriate. At some point, the laws that would govern a society where negative freedom is the ultimate guiding principle would require the curtailment of a number of liberties because these liberties impacted on the personal space of the individual. The (negative) freedom of one individual can have a negative impact on another. On the other hand, positive freedom is the freedom to make choices, the freedom to decide how to act and think. To be positively free is to be free, not only of the will of other human beings, but of the unconscious desires of the self. This latter source of bondage is problematic. Taken to extremes, the only way in which an individual is not going to be beholden to their need to eat, to breathe, to engage with other individuals, is by not being alive. Moreover, the level of self-realisation (and hence rational thought) that freedom approaching this kind requires is only achievable through a process of education. Such education is not available to everyone The situation arises where those that are rational and have attained self-realisation believe themselves to be better equipped to decide what is right and ethical for those that have not had the same privileges. These may become grounds for justifying tyranny and despotism, universally accepted to be the very antithesis of liberty. Setting aside these criticisms, the ambition of a liberal education is for learners to develop their potential to be reflective, participative and critical in their thoughts and deeds through a process of self-realisation. In so doing, a liberal education encourages active citizenship through providing opportunities to participate in civil society. An education that encourages such development does not focus on subjects so much as on a way of learning. Subjects become the means by which the learner develops their ability to learn. The concept of agency has much in common with *bildung*. *Bildung* is firmly entrenched in these values of a liberal education.

A contradiction for both critical social theory and liberal education is inherent in the fact that both liberal education and critical social theory aim to emancipate individuals from

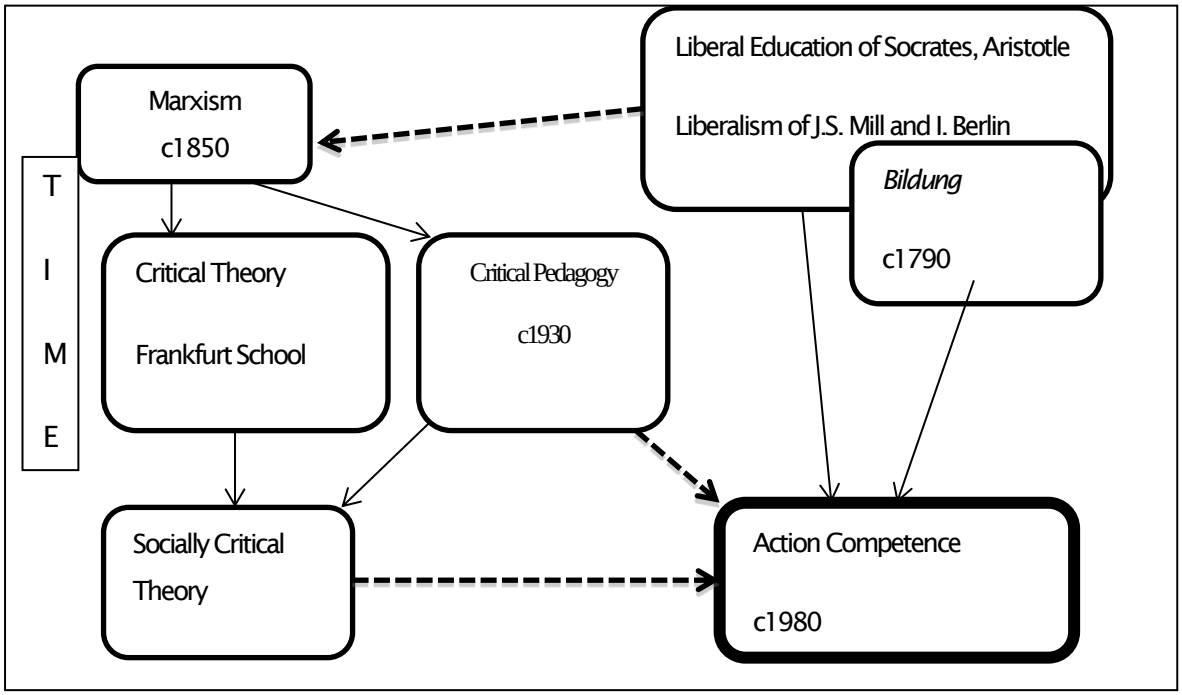
authoritarianism whilst still setting an agenda for its emancipation. From a socially critical perspective, society should consist of individuals able to make their own choices. The ability to make choices is made possible through the capacity for critical reflection. Furthermore, individuals should participate willingly in democratic institutions of national government and local community life. A system of liberal education is necessary to achieve this. However, one might argue that education to be truly emancipatory, it should be free of any such predetermined principles.

Action competence theory appears to embody this contradiction. As a pedagogical approach, it provides a model for designing an educational programme that encourages the development of attributes associated with active citizenship such as critical consciousness and reflective thinking; one might call this a blueprint for a liberal education. As a dimension of human nature, it identifies the kinds of desirable characteristics that a person should aspire to develop to live successfully in a democracy and in the case of Denmark, a social democracy. I return to this contradiction in the literature review in this chapter.

Furthermore, Schnack (2003) points out that, by taking a view that education based on behaviour modification is indoctrinatory and hence unethical and undesirable, the action competence approach sits firmly in the critical social theory/critical pedagogy camp. Additionally, the element of change in action competence where a learner identifies a problem and then seeks a solution, which s/he attempts to implement to change the situation, is clearly premised on a socially critical approach to living in society. It is only through thinking (socially) critically about the socio-political conditions, that an individual can identify the need for change.

The diagram below describes briefly the influence of the two philosophies of liberal education and socially critical theory on the development of action competence. The dotted arrows represent relationships that are somewhat contested but can still be identified. For instance, despite Marxist disavowal of capitalism, the principles of freedom and equality underpin Marxist social theory (Berlin, 1969) and are the starting point for Liberal Education. Progenitors of action competence express a link between Critical Social Theory and Critical Pedagogy despite their disavowal of the idea that action competence, as a pedagogical approach tries to encourage the adoption of a particular way of living.

Figure 2.2a - The Influence of Critical Theory, *Bildung* and Liberal Education on Action Competence



Competence

2.2.2 Action Competence: explaining the concept and reviewing the literature

Researchers and practitioners apply the action competence concept in three ways: as a theory in the field of environmental and health education, as a pedagogical approach and as a dimension of human nature.

Action competence as theory is the totality of the empirical research, the associated literature, the findings, and their implications generated by researchers working under its auspices. An indication of its significance in the field of EE research is the fact that Jensen and Schnack's seminal paper on action competence (Jensen and Schnack, 1997) appears in the top five most cited articles in the journal: *EE Research*.

Action competence as theory

Action competence theory is the outcome of more than two decades of empirical research by academics and practitioners in Denmark and beyond. Most of this research has been

developmental in nature, gathering data based on intervention programmes such as the MUVIN project (Breiting *et. al.* 2009), the *Jægerspris* project (Jensen, 2002) and research into the Health Promoting Schools work (Carlsson, 2009, Simovska, 2007, 2008 & 2012, Simovska and Carlsson, 2012).

The findings of that research have led to developments in the field of both EE and health education, which have also had significant implications for CE in all its forms and for education more broadly (Fontes, 2004). Many of these implications have not yet been realised although one of the earliest papers written on the subject of action competence refers to its potential for developing civic competence (Vogensen, 1996 cited by Fontes, 2004). Moreover, as Uzzell puts it: 'With action competence, EE must have a goal related to citizenship. As such it must be carried out with the simultaneous training of children as future citizens.' (Uzzell, 1999; p.402). It is worth noting that the wording here (i.e. the idea of training) brings to mind social critical theory rather than liberal education. In a liberal education terminology such as *providing opportunities to develop critical thinking* would be more appropriate.

Schnack (2003) suggests that the action competence perspective should be a property of a liberal education that addresses challenges of a health or environmental nature. It must therefore be possible to apply action competence theory in an institution taking a liberal, democratic approach to education. The issue of whether (or not) the case under investigation explicitly states the intention to develop action competence, or whether (or not) the case involves action competence as a pedagogical approach should not determine the usefulness of action competence research to explore the case.

Action competence as a pedagogical approach

Action competence as a pedagogical approach mostly concerns the IVAC model. IVAC is an acronym for Investigations, Visions, Action and Change and is illustrated in Box 2.2.2a below. Practitioners and researchers use this model to design intervention programmes in environmental and health education for use in schools. Jensen (1997) outlines the model as follows:

Box 2.2.2a - The IVAC model of the action competence approach to teaching (Source: Jensen, 2002)

A: Investigation of a theme:

why is this important to us? its significance to us/others?—now/in the future? what influence do lifestyle and living conditions have? what influence are we exposed to and why? how were things before and why have they changed?

B: Development of visions

what alternatives are imaginable? how are the conditions in other countries and cultures? what alternatives do we prefer and why?

C: Action and change

what changes will bring us closer to the visions? changes within ourselves, in the classroom, in the society? what action possibilities exist for realising the changes? what barriers might prevent carrying out these actions? what barriers might prevent actions from resulting in change? what actions will we initiate? how will we choose to evaluate these actions?

The MUVIN (Breiting *et. al.* 2009) and *Jægerspris* (Jensen, 2002) programmes incorporate the IVAC model into their design. However, practitioners cannot always adopt it in its entirety, as it has to fit in with the school and its curriculum (Carlsson and Simovska, 2012). The data gathered from such interventions is therefore contextually dependent.

Action competence as a dimension of human nature

Action competence as a dimension of human nature has been described by Breiting and Mogensen (1999 p. 350) as follows: 'To develop the pupils' action competence means

developing their ability and will to take part in democratic processes concerning man's exploitation of and dependence on natural resources in a critical way'. In this sense, action competence refers to EE but it equally applies to health education.

Carlsson and Simovska (2012) have begun to develop a list of attributes that can be associated with action competence, thus breaking the concept down into a number of attributes that are recognisable and identifiable. This is particularly useful for research such as mine, which is not based on an intervention programme.

In both of these pieces of research, action competence is being understood to be something that a person can possess. It is a characteristic held internally by a person and expressed in encounters with other individuals. More recently an article by Nielsen *et. al*. (2012) also accepts this instantiation of action competence; demonstrating that this understanding of the concept is currently in use.

Some progenitors of action competence contest this application of action competence as a characteristic of an individual's personality. Mogensen and Schnack (2010) argue that action competence is not something that a person possesses. They describe it as an ideal that a person can strive for, similar to the *bildung* concept or as one might understand the concept of enlightenment to be. However, this clearly contradicts how other authors use the concept. The quote from Breiting and Mogensen above illustrates this. The use of the possessive noun *persons'* indicates unequivocally the human-possessed nature of the concept here.

Hence herein lies a dichotomy. On the one hand, action competence as a dimension of human nature is to be viewed as an ideal state that can be strived for but never attained. Whilst on the other, action competence as a dimension of human nature is something that is possessed in an imperfect form to be developed and improved upon through learning and active participation in authentic encounters. In this sense, action competence is an aspect of an individual's character (or a characteristic of an individual's personality) in the same way that well-being or determination is.

The majority of recent research that draws on action competence theory appears to treat it as described, as something, which is the provenance of every individual. In accepting this position, it becomes necessary to make action competence more explicit: to explain exactly what we are referring to when we speak of the development of a person's action

competence. This is problematic because, as explained earlier, when action competence theory purports to have a blueprint of desirable attributes of the person who lives successfully in a democracy it strays into the realms of authoritarianism and paternalism. In other words, it risks becoming its antithesis.

Moreover, action competence falls within the realms of ESD, EE and ESE, hence (as I outline in Chapter 1) it embodies the same levels of complexity and uncertainty as these domains (Scott and Gough, 2003). Schnack (2000) makes this point strongly and it is re-iterated by Mogensen and Schnack (2010). Mogensen and Schnack also explain a further problem with delineating the boundaries of a concept such as this. The point they make is that the development of action competence is a never-ending process where the development and acquisition of a certain level of attributes entails the capability to develop and attain further (and perhaps unexpected) attributes. It is impossible to become action competent or to have action competence *per se,* because the more developed an individual's action-competence-associated attributes become the more potential they have to develop further. However, these researchers do describe human nature from an action competence perspective. In this sense, the definition of action competence from Jensen and Schnack (1997) quoted earlier is not contested. It is still possible to explain the concept in terms of a capability if one takes an action competence perspective to judge a person's capabilities.

At this point, the idea of citizenship through subjectification becomes relevant to the argument. If, as Biesta (2011) argues, democracy is the process of citizenship through subjectification, something that emerges at the interface between individuals and political action then this is in line with Schnack's instantiation of action competence. I explain the meaning of citizenship through subjectification in Chapter 2.2 as it forms part of my understanding of what citizenship is and how active citizenship attributes develop. Subjectification is the process by which an individual develops as a political entity. Subjectification is the development of attributes *through* democracy, *for* democracy. For the sake of clarity here I will offer an example of what I understand Biesta's work to mean. An individual involved in an environmental campaign to limit pollution from transport in a town will develop through the process of engagement with this political activity. The person will develop their identity (and attributes) as a democratic citizen as a result. The process of changing the hegemony will also result in changes in the individual. The individual will emerge from the campaign with a different

set of attributes than those with which s/he entered the campaign. These attributes may include knowledge, skills, dispositions and understanding but this will depend on the context of the encounter, in terms of both the individuals involved and the campaign itself.

Democracy is what emerges at the interface between the individual and the action; it is the process of the development of new identities and subjectivities that takes place (variously for different individuals) in this context. This is not to discount the idea of democratic systems but that is democracy at the institutional level whilst this discussion is about democracy at the level of action.

This instantiation of democratic citizenship is not concordant with action-competence as an aspect of an individual's character. Concordance between these two concepts necessitates an understanding of action competence as emergent and dynamic, constantly re-defined through contextualisation by different individuals and settings. This is in line with Mogensen and Schnack's (2010) characterisation of action competence as an ideal.

A related problem with treating the concept as an aspect of a person's character arises from the way the term competence is understood. I examine competence further later in this chapter but the relevant point here is that the term competence has both an internal aspect and external one. The internal aspect is the totality of the knowledge, attitudes, values and skills required to manifest the action associated with the competence in question. The external aspect is the contextualisation of the action associated with the competence, in the world. Hoskins and Crick (2010, p. 122) put it as follows: 'the site of a competence is at the interface between the person and the demands of the real world'. This is important because the way competence is expressed will be different depending on the context in which it is made manifest. In other words, the particular demands that the real world places on the individual involved, will determine the shape of the competence that emerges in the action that is taking place. For example, the competence expressed by a hairdresser will depend on the haircut s/he is doing as well as the hair s/he is cutting and the preferences of her/his client. This example is also helpful for explaining the difference between a competence and a competency. The hairdresser's competency with a pair of scissors will not depend on any of these conditions. Hence, competency is just one of the many aspects of competence.

Although it would be simpler to talk about action competence as an aspect of an individual's character, I find the arguments against it (namely its status as an ideal, the uncertainty and complexity it embodies, and the notion of the positive feedback in entails) too compelling. However, action competence clearly is relevant to human nature; as such it is possible to describe it as a dimension of human nature. It is something that falls within the wherewithall of all human beings, although not something that any human being can fully possess.

Almers (2013) alludes to this problem in the way action competence is applied in a recent article about her doctoral research. She avoids the problem by talking about the aspects of action competence that *have* been operationalized. These aspects include 'commitment; willingness and courage to act; knowledge about *consequences* of and *root causes* of problems; knowledge about and a capability to develop *visions* and possible *solutions* to a problem; knowledge about how to influence and change conditions; and, finally, to be able to put this knowledge into practice.' (Almers, 2013; p. 117). These aspects appear to have been developed from the various definitions of the concept as well as the IVAC model described earlier.

In this research, I choose to address this problem by talking about action-competence-associated attributes. The inspiration for this approach comes from (*inter alia*) Simovska and Carlsson's work (2012). Although they treat action competence as an aspect of an individual's character (something which I have argued is problematic), they also provide the beginnings of a list of attributes that are associated with action competence. I find the notion of action-competence-associated attributes useful because it ensures that the concept retains complexity and adaptability without losing its usefulness through indeterminacy. It also allows me to explain the overlaps between action competence and active citizenship with clarity and transparency. The associated attributes, for example, critical thinking, can be treated separately and there is no debate about whether they can be treated as characteristics of an individual or not.

Action in action competence

In action competence theory, action refers to an act that is an outcome of an individual's conscious decision to do something directed at addressing an issue. Action is distinct, from both behaviour change and activity (Jensen, 2004, Jensen, 2002, Jensen and Schnack, 1997). Bishop and Scott (1998) point out that this aspect of the way that action

competence is defined in problematic. It is difficult to explain what it is that distinguishes an action from an activity or action from behaviour change. Furthermore, once you have, disregarding all things that are done on the basis that they are activities (not actions) and hence do not meet the stringent specifications of the action competence approach risks ignoring the learning that undoubtedly occurs by individuals who take part in these activities. Moreover, it also disregards the potential for social learning and influence that might result from what, in an action competence perspective, has no educational value.

The following diagram comes from Jensen and Schnack (1997). It distinguishes action from behaviour change, horizontally and from activity, vertically.

Figure 2.2.2b - Criteria for Action (adapted from Jensen and Schnack, 1997, p. 477).

	Students pushed to do something	**Students involved in deciding what to do**
Activity solely as counterweight to academic tuition	No direction or intention (Cell 1)	Intention but no direction (Cell 2)
Activity targeted at solving a problem	No intention but direction (Cell 3)	ACTION Intention and direction (Cell 4)

These two aspects of action are clearly related and interrelated. It is unlikely that an individual would choose to do something without any purpose i.e. doing something with intention but not direction. Nonetheless, these two aspects have different implications

for the learning that is involved. Jensen (2004) clarifies this when he talks about the problems associated with a science-orientated approach to teaching about environmental problems. In a science-based orientation, activities might be the pedagogical mode of delivery. Learners develop an understanding of and knowledge about the problems through participating in activities such as measuring levels of pollution in water in local rivers. This knowledge is likely to increase levels of anxiety about such problems, especially when the activities are contextualised within a local community, as so much of this work is. As has been shown by a plethora of research, such knowledge and levels of anxiety are not bound however, to result in improvements in conditions (see Kolmuss and Agyeman, 2002 for an exploration of this field and Gough, 2008 and Scott, 2008 for some elaborations of this work). Instead, it is quite common for anxiety to lead to action-paralysis. Activities such as this would fit into Cell 1 and Cell 2 in Figure 2c above.

In contrast, an action-oriented approach would situate learning to measure pollution within the context of, for instance, a project to improve local water resources. Thus the understanding of and knowledge about pollution more generally would be a consequence (intended or unintended) of the completion of the project. So, the activity of measuring pollution would be carried out so that the intention of improving local water resources can be achieved. For the learner, the activity would be associated with the (empowering) outcome of instigating a change in the local community that resulted in improvements in conditions. Hence, the competence of the individual to act would be increased as the knowledge of how to act would be associated with the motivation to do so rather than with, as in the above example, anxiety and the associated behavioural implications.

If the focus of learning is how to modify behaviour, a different outcome is foreseeable. For example, in schools in England, a common target for change is mode of transport. Many schools have travel plans (Gayford, 2009). The point of these is often to encourage children (and hence parents) to make fewer car journeys. The purpose is then simply to change the way children get to school by making them walk or cycle. However, sending a child home to nag their parents into changing the way they get to school could conceivably result in strife for the child. The parents of the child might have chosen to drive because local traffic conditions are such that it is unsafe for children to walk or cycle. In this case, the child would have to negotiate the different priorities of school and home and may become caught in the conflict between the two (Lee, 2008). The

implications for the child are a reduced sense of well-being and conflicted understanding of responsibility in relation to climate change and poorer school-home relations.

By contrast, in an action-oriented perspective the learners might identify a problem with local traffic enforcement and regulations that impair children's potential to walk or cycle to school. The children might then devise a solution that involves working with a local council to institute traffic calming measures. The outcomes of this might include behaviour change as the safety of children walking to school would be improved. In this case, the behaviour change would be the outcome of a project that involved not only environmental changes but also learning. Jensen (2004) reports on just such an example in his description of the Jaegarpris project. From an action competence perspective what is important here is the learning that occurs through the intervention; walking is incidental. Bishop and Scott (1998) and Vare and Scott (2007) challenge this aspect of such an approach to EE for being so exclusively focused on learning at the social level as to miss the significant impacts of changes to behaviour. These behaviour changes not only influence the environment directly through resolving the problem, but also have an indirect influence on society through encouraging others to think about their own behaviour.

It is important here to link this conceptualisation of action to the onto-epistemic framing of this research, which is described in Chapter 3. Action as used in transactional analysis and a first person perspective on language is analogous to action as used here (Ohman and Ostman, 2007). In that sense, it is seen as something that occurs within an activity and involves both the context within which it occurs (the activity), the decisions made before hand, and the person doing it. This conceptualisation of action is also in line with the way it is understood by Carr and Kemmis (1983) in their explanation of what research can be said to be research in the field of education (see Chapter 3 for an elaboration of this point). Schusler *et al*. (2009) also have a similar take on action, which they draw from the work of Emmons on environmental action (Emmons, 1997 cited in Schusler *et al*. 2009).

Moreover, this conceptualisation of action is contingent with Biesta's take on democracy through subjectification. He argues that the '*desire for democracy can only be fuelled'* (Biesta, 2012; p. 153). Action of the kind described in action competence literature has the potential to fuel democracy by its association with concrete outcomes that demonstrate to the actor the impacts of political behaviour. Such impact associations

might be empowering enough to encourage and enable future participation in political activity.

However, there is a need to consider the fact that such designed encounters are not in fact, as authentic as they purport to be. It is true that the encounters described by Jensen (2004) are situated in the communities outside the school and provide the children with experiences of local democratic institutions. However, these are not the institutions that they are exposed to on a daily basis. The institutions that matter to their daily lives are schools and homes and so forth, which they inhabit on daily basis. It is, as Biesta argues, there that they form their political identities and subjectivities. Hence, it is at the very least equally valuable to investigate undertakings in these arenas if we are to understand how children develop in this regard, as it is to create authentic opportunities for children to engage in political activity. It is in this vein that this research proceeds.

A related point is how the investigation of children's routine encounters validates the treatment of children as both current and future citizens. It is through giving credence to what children do and experience that we manifest our commitment to their status as current citizens (Mannion and l'Anson, 2005; Barrett-Hacking *et al.*, 2007). It is through taking them seriously as current citizens that we engage them in society as future citizens.

The foregrounding of intentions in this conceptualisation of action potentially conflicts with how Heshusius (1994) describes action in the appropriation of knowledge through participatory consciousness. For Heshusius the intentions and needs of the individual interfere with the individual's ability to be fully immersed in the actions. For participatory consciousness to be achieved, intentions must be set aside so that actions can emerge from the interrelations between the individuals. However, intention and purpose in action in action competence is about the motivation *for* the action, not the manifestation *of* the action. Hence, it is possible for participatory consciousness to emerge from such actions because the actualisation of the actions are not requisitely affected by intentions.

The significance of this discussion about action is that the involvement of children in all stages of an environmental project (including initiating the problem and thus to have a direction and intention when carrying out the work that is their own) is important because of its potential to empower children and its association with learning particular

attributes. However, there is a danger that in foregrounding the importance of this kind of action we discount the learning that takes place under more common situations where children are not as involved in all phases of the research. The learning that takes place in these situations is, arguably more significant because it is more common and therefore an authentic part of the lives of most children. This research is therefore justified in investigating such learning despite the fact that it does not necessarily meet with the stringent requirements of an action competence approach to teaching and framing it by the action competence approach is done with these limitations in mind.

Competence in Action Competence

Mogensen and Schnack (2010; p.65) provide a succinct description of competence as seeking to become 'enlightened and qualified'. They quote Blomhoj and Jensen in defining it as 'someone's insightful readiness to act in a way that meets the challenges of a given situation' (p.65). Blomhoj and Jensen are careful to point out that 'the challenges of a given situation' will often involve other people's judgements and insights. In this sense, it is important to understand action competence as something that usually involves collective decisions. The social aspect of action competence is also emphasised in the following often quoted definition of action competence: action competence as "a capability—based on critical thinking and incomplete knowledge—to involve yourself as a person with other persons in responsible actions and counter-actions for a more humane world" (Schnack, 1994; p.190)

Competence is a contested term (Hoskins and Crick, 2010). There are questions about it being linked *competencies* and the literature on Key Competencies for living, which are criticised for their mechanistic nature.

Researching in the field of CE, Hoskins and Crick (2010, p.122) write: 'a competence refers to a complex combination of knowledge, skills, understanding, values, attitudes and desire which lead to effective, embodied human action in the world in a particular domain.'. They go on to state that 'competence implies a sense of agency, action and value.' (p.122). These two statements are compatible with the action competence approach to teaching and its progenitors' conceptualisation of the term.

For these authors (and those whom they cite) 'the site of a competence is at the interface between the person and the demands of the real world' (p.122). As such, this position on the meaning of competence is in accordance with competence in action competence that exists not within an individual but within the relationship of the individual to its surroundings or in the *encounters* that the individual is a part of. Thus it adds another aspect to the understanding of action competence as a dimension of human nature. This contextualist nature strengthens the arguments for treating action competence as something that is not the provenance of an individual, but is something to which an individual can aspire and which an individual can draw on in an encounter. Wals (2010, p. 149) also defines competence in this way; describing it as 'not something one possesses, but rather is a relational property that emerges in a context in interaction with others and the situation and/or environment in which activity takes place'.

This meaning of the term *encounter* is detailed in Chapter 3. Here I offer a simple explanation of how I understand and employ it. In this research, *encounter* encompasses the totality of an individual, the actions s/he is performing, and the time-place position in which s/he is located including both the immediate location in an activity and the broader socio-cultural influences s/he is subject to. As such, it also brings in a dimension of time as non-linear as it works with the idea that prior experiences are not set in time but can be changed by current events and can determine future events. This conceptualisation of encounter draws on the work of Ohman and Ostman (2007), who developed their ideas from the work of Wittgenstein and Dewey.

As explained in Chapter 3, the relational nature of competence as described here is concordant with the transactional methodology underpinning this research.

Action competence portends to handle environmental issues in situations that are authentic (Uzzell, 1999). It is questionable whether action competence inspired teaching programmes or action programmes are in fact authentic. It is certainly true that they take place in the world outside the classroom and are different from what takes place in the classroom. However, the everyday experiences of children and young people in schools are surely also authentic. In fact, it is possible to argue that the action competence programmes are so different that they are anything but authentic; rather they are synthetic.

What Biesta argues for is attention to what children do learn from their experiences in classrooms and at home or in their communities. In essence, he is arguing for an investigation of the authentic experiences of children in schools, families and so forth. This research proceeds in that vein.

2.3 Citizenship Education (CE)

The quote from Uzzell (1999; p. 402) hat action competence must be carried out 'with the simultaneous training of children as future citizens' embodies the problem underlying the association of action competence with critical social theory; namely the assumption that there is right and wrong way for society to function. Citizenship (and hence active citizenship) suffers from a similar problem underlying attempts to identify what 'good citizenship' looks like.

Biesta (2010) addresses the problem of attempting to train future citizens through advocating a move away from a socialisation conception of citizenship where the aim of citizenship is to enable the individual to become the kind of citizen that reproduces the existing political order. He argues for a shift 'towards a subjectification conception aimed at engendering democratic subjectivity' (Biesta, 2010; p 143). Citizenship through socialisation implies the existence of an ideal type of citizen that can be identified and which all citizens should aspire to be. This position is framed by socially critical theory. From such a perspective, all citizens would be governed by rules and regulations that they would not be willing or able to transform or reform. Thus, a steady state would result where democracy would be non-existent since democracy entails the active engagement of its citizens to be existential.

For Biesta, democracy is an active, evolving process; characterised by participating and willing engagement; both subjectifying in terms of shaping its subjects and subjectified in terms of being shaped by its subjects.

Biesta suggests that education for citizenship as it is in schools today is not supportive of such a subjectification conceptualisation of democracy. It aims, instead, to create stability by producing citizens with the predetermined characteristics laid down in a citizenship curriculum (i.e. to train future citizens). Whilst Biesta is careful not to suggest that stability is undesirable, he does state that the volition to actively engage through

democracy by redrawing its boundaries is indispensable. There is a need for the institution of democracy to be responsive to the individuals that comprise it. What counts as citizenship is responsive to its constitutive parts, the elements of citizenship should be determined through dynamic interplay between citizens and state, between structure and agency. Democracy is thus both quantitative in terms of being determined by majority rules (and representation) and qualitative in terms of being determined by the individual subjects that engage with it and transform and reform it.

Schnack (2000) has a similar stance on democracy although he does not refer to the concept of subjectification; for him (amongst other cognate ideas), 'democracy is primarily participation' (Schnack, 2000; p 274) and the need to 'continually reconstruct one's own self-understanding and that of the communities to which one belongs' (p.276). These two quotes are revealing in that they frame democracy as being the outcome of the engagement of citizens who must, as a result of rapidly changing sociocultural contexts, continuously reconstruct themselves and their communities.

Biesta refers to citizenship of this kind as citizenship through subjectification. 'Learning here is not about the acquisition of knowledge, skills, competencies or dispositions but has to do with an 'exposure' to and engagement with the experiment of democracy. It is this very engagement that is subjectifying.' (Biesta, 2011; p. 152). I understand this to mean that learning through subjectification does two things: it shapes both the democracy itself and the citizen of that democracy. Rather than thinking of democratic education as learning for political existence, it is argued that the focus of our educational endeavours should be on how we can learn from political existence. (Biesta, 2011).

Where Schnack and Biesta appear to diverge, is in their approach to what can and should be assumed about education for democratic engagement. It is clear that Schnack is comfortable with some definitive statements about how to prepare (through education) for democracy through participation; of which, for him, action competence is an essential component. For example, critical thinking appears as an incontrovertible constituent of action competence in his writing. It follows that critical thinking can be taught.

On the other hand, Biesta's democratic engagement is about the desire for democracy and since this is not something that operates at the level of cognition it cannot be attained through cognitive means, it can only be fuelled. This is significant because action competence is often defined as both capability and *willingness*. Willingness and

desire are analogous concepts. If *desire* cannot be taught then neither can *willingness*. In support of the action competence approach, the willingness is purported to be gained through the experience of authentic action; hence progenitors of this approach could argue that it is not an outcome of being taught, but of participation in authentic action. Thus, action competence offers opportunities for developing desire through fuelling it with experiences of democratic engagement.

I have argued elsewhere, that the nature of programmes following for example, the IVAC model, is that they are not in fact, authentic; they are contrived. This is problematic but can be set aside for the moment to enable the development of this controversy between the idea of democracy as subjectification and the socialisation involved in developing action competence.

A first reading of citizenship through subjectification suggests that the analytical framework used in this research is invalid as it sets out to assess the very attributes that Biesta cautions against. This research would appear to be rooted in a socialisation definition of citizenship. However, there are a number or reasons why this is not the case; primarily the fact that this research investigates authentic encounters in which children participate in undertakings with political characteristics. In so doing, this research takes account of the ideas expressed in the following quote: 'the most significant forms of civic learning are likely to take place through the processes and practices that make up the everyday lives of children, young people and adults and why the conditions that shape these processes and practices deserve our fullest attention if we really are concerned about the future of democratic citizenship and about the opportunities for democratic learning in school and in society at large.' (Biesta, 2011; p. 152).

It is true that it does so by using a framework developed from the literature but the framework enables the 'fullest attention' to be given to the 'processes and practices of children's every day lives'. The framework was not used to influence the ongoings in the eco-club so that the ideal citizen could be produced. The framework was used to investigate the outcomes of what is taking place so that a full understanding of what occurs can be attained. Moreover, the framework is not proposed to be definitive. It is presented as a starting point to be modified and extended according to the context in which the research takes place.

The knowledge gained from this exercise may be used to facilitate future research in this arena. It may also be useful for practitioners in the arena to be aware of the potential there is for them to provide opportunities for enabling citizenship through subjectification. In this manner, the children that engage in the encounters will gain experience of democratic action, which will enable them to influence their current and future living conditions. Thus subjectifying citizenship garnered in this manner will both develop individual agency and impact on the structures in which the individuals function (e.g. the school); enabling change and changeability as a result.

To return to the problem identified earlier with the authenticity of experiences engendered from engagement with educational programmes designed from an action competence perspective. In this regard, the approach taken by this research of investigating existing encounters in the ordinary lives of children is appropriate. Whilst it may be laudable and desirable to give children opportunities to engage with local communities in solving environmental problems using the IVAC model; it is less representative (at least in England) than investigating the kinds of activities that take place in eco clubs across the country.

I am advocating the potential for eco clubs to develop skills, volitional dispositions, knowledge and experiential understanding but I am not trying to identify which of these are definitive elements of the active citizen. I am also not purporting to be able to identify which will be inevitable outcomes of participation in eco clubs. I am suggesting that participation in eco clubs can be a way in which children can engage with citizenship activities in the sense of subjectfication; a way for children to both shape and be shaped by their environment.

Despite the correlation between democracy through subjectification and the philosophical underpinnings of this research, citizenship in practice in England is tied to the principles of a liberal democracy. This is sometimes described as a rights based appraoch to citizenship (Lawson, 2010). However, the previous section on the commensurability of citizenship through subjectification and the approach to investigating action-competence-associated attributes is relevant here. These attributes are also commensurable with what is commonly referred to active citizenship. Active citizenship has been the subject of serious and in-depth research at both a national and international level in recent decades; much of this was sparked by the Lisbon process

(Hoskins and Deakin Crick, 2010). In the next section, I outline active citizenship and its application to this research.

2.3.1 Active Citizenship

Hoskins and Mascherini (2008) give a comprehensive account of the meaning of active citizenship based on a number of European research studies that have worked with the concept. They use the following general definition 'Participation in civil society, community and/or political life, characterised by mutual respect and non-violence and in accordance with human rights and democracy' that they attribute to Hoskins (p.462). This definition is used as the basis for a composite indicator for active citizenship that they use to rank nineteen European countries. The indicator has four dimensions namely: protest and social change, community life, representative democracy and democratic values. Each of these domains subdivides further to elaborate its meaning. It is interesting that Denmark, where action competence theory originated, ranks in the top three for all of the various ways in which they apply their index. Hoskins and Mascherini also point to the correlation between active citizenship (as opposed to citizenship) and education and education policy; highlighting its development alongside the concept of learning in research projects.

This definition is useful for this research in that it encompasses the potential for community life (and thus eco clubs in schools) to contribute to an understanding of active citizenship. Also, the inclusion of community life entails attention to be paid to the interactive nature of individuals practicing active citizenship. Active citizenship itself is quite strongly associated with the individual, which might be misleading and contradict the underlying principles of this research; however, the introduction of the focus on community alleviates this problem somewhat. A greater challenge when attempting to use this definition of active citizenship is its association with a composite indicator for the measurement of active citizenship. The authors involved in this study foreground their work with an honest appraisal of the problems associated with the production of a composite indicator that relies on survey data from (in this case) twenty-one different countries in Europe. Hoskins and Mascherini (2008; p. 460) make the following stipulation with regard to the use of composite indicators for measuring active citizenship: 'We would also like to emphasise early on that CIs [composite indicators] should never be seen as a goal *per se*. They should be seen, instead, as a starting point

for initiating discussion within civil society and relevant policy fields and in this case towards maintaining and improving the levels of value based participation in Europe.'

In an insightful and broad problematisation of the concept of active citizenship, Lawson (2010) draws on the communitarian and liberal individualism debate as well as feminist critiques of active citizenship. She described the rights and responsibilities debate from these different perspectives, pointing to a commonly encountered source of tension regarding CE: 'on the one hand, the government is concerned with issues of legitimacy and social order and is concerned to strengthen the status quo; on the other hand, CE is seen as a means of subverting present social arrangements and changing the way citizens understand and work with state institutions.' (Lawson, 2010; p. 170). Lawson describes the 'mutual obligation' approach that underpinned the previous UK government's position of citizenship and its resultant institution in the National Curriculum. She illustrates how this approach plays out in three schools in which she did investigated CE as community volunteering. Her findings suggest that the 'something-for-something' approach that underpins mutual obligation actually has a detrimental effect on the development of active citizenship. The children developed the associated skills and attitudes through their voluntary work, and thus the programmes achieved some success. However, once they had completed the programmes the majority did not display a desire or willingness to any more voluntary work. Thus, the programmes she investigated were unsuccessful in encouraging citizenship as either subjectification or action competence, as previously explained.

The relevance of this finding for this research lies in this last point. If the children in the eco clubs I investigate do not develop a willingness or desire in terms of active citizenship then the fact that they have had the opportunity to develop attributes that might support them, is not particularly helpful. However, the fact that this research investigates eco clubs in primary schools where there is no obligation to participate (as there is in the schools described in Lawson's paper), to some extent overcomes this issue. Moreover, the analytical framework included a set of attributes entitled *volitional dispositions,* to identify current and intended engagement with environmental issues (See Chapter 9 for further explanations). It can reasonably be inferred from these attributes whether active citizenship is a likely outcome of participation in eco clubs such as those investigated in for these case studies.

2.3.2 Participation

The idea of participation has been around in various forms in education and elsewhere (for example, politics) for over a century. In politics, participation has largely been associated with representative democracy and the need for a participative citizenry although this takes various forms and levels of engagement.

The model of participation called the 'ladder of participation' that Hart introduced in his 1992 paper has stimulated much of the participation theory literature. Critique of this model mainly centres on the linear, progressive nature that it suggests (Kesby, 2007, Reid & Nikel, 2008). The metaphor of a ladder implies the need to move from one level of participation to the next and that participation of a lower level has less value than participation at a higher level. In response to these criticisms and others, Hart describes the ladder not as a model to be applied to programmes to evaluate their effectiveness but as a stimulant to thinking about how children are participating (Hart, 2008). In this, it has been very successful (Reid & Nikel, 2008).

In this research, I used the 'ladder of participation' as a starting point to develop the participation theory aspect of my analytical framework. I avoid using the terminology of levels or steps because I do not want to suggest the idea of superiority of one kind of participation over another.

Simovska (2008) adopts some of the ladder terminology in her research into Health Promoting Schools when she talks about 'two distinctive qualities' of participation: *token* and *genuine* participation (p.65). She differentiates between token and genuine participation based on the focus of the programme, its outcomes and the target of change. A school that adopts the Health promoting approach to education about health will focus on the process of knowing with divergent outcomes that will change individuals-in-context.

This way of viewing participation is useful as it is explicitly linked to action competence theory. However, I feel that the tendency to assume that 'genuine participation' is always going to be superior to other kinds of participation is problematic. The context in which the participation takes place is likely to determine what kind of participation is most impactful and relevant for developing action-competence-associated attributes. Therefore, it may be that just taking part in a conversation about the problems of climate

change does have an impact on a child's ability to think critically about these issues in the future. Moreover, even participation that has been described as tokenistic, it is possible that children learn to be able to spot when their opinions are truly being sought and taken account of. Hence, it may be that 'tokenistic' participation contributes to the development of critical thinking skills.

In a different paper, Simovska (2007) describes the need for participation to be 'active', and to involve choice that is effective (i.e. choices must be seen to be implemented). Here the term active has the same meaning as in action competence theory where actions are intentional and directional. The issue of choice relates to the fact that the actor must have a say in the selection of issues that are pertinent to them and their choices must have an impact in authentic situations. The need to include these two characteristics in an understanding of participation is credible. However, there is a case to be made for avoiding an either/or distinction between genuine and token participation. It is my understanding that there is a continuum between the two and that even token participation has its place as argued above.

A further problem with this obsession with distinguishing between genuine and token participation is the implication that a child (or adult) is only a participant in his or her own life under conditions that are determined by an external observer. For example, a child is deemed a passive receptor of the world around them unless they are *seen to be* making active choices or volubly disagreeing with other adults or children. This approach discounts active non-participation (Kothari, 2001, Carlsson & Sanders, 2008, Reid & Nikel, 2008). A child that chooses not to participate when s/he is being encouraged to do so is making an active decision and this is thus a 'genuine' act but it might not be possible to assess this through observation. Moreover, it is possible that a child that is making an active choice not to participate will choose not to reveal this in an interview so it is difficult to provide empirical evidence of this.

While it might still be possible to argue that the participation that takes place in eco clubs is not of the kind that is described as genuine; it certainly is *genuinely* that which the children in the club experience. Seen through the eyes of the participants, it is disingenuous to describe their participation as tokenistic. This research approaches children's participation not as either genuine or tokenistic but as existential. As such, their participation influences and is influenced by their identity and development. Thus their participation *as it is*, is the only site in which this research can proceed.

In this research, an argument for an understanding of participation at a more fundamental level is made. Here participatory theory is not concerned with evaluating the experiences of children against an externally determined and separately articulated conceptualisation of participation (such as the Roger Hart's 'ladder of participation' Hart, 1997). It is about gaining an understanding of the potential for contributing to children's developing action-competence-associated attributes through participation in eco clubs. The participation referred to here is not just the participation of the children but, the participation of the children and the researcher. Thus, the research approaches an epistemology of participatory consciousness. The research does not fully appropriate such an epistemology because there is an element of the observer in the research. Without the observational element, it would be hard to articulate the knowledge garnered from the participatory experience.

2.4 Eco Clubs

'I would definitely definitely recommend [having an eco club] without reservation, for obviously the impact it has on our whole world in which we live, in but in terms of the children as well, in terms of raising their awareness and their responsibility'

Head Teacher, St Jude's Primary School

In this research *eco clubs* refers to groups in schools consisting of children, and adult facilitators (including teachers, bursars, grounds staff and parents), who have a shared interest regarding the environment; and who meet regularly to work towards that purpose. As such they share interdependence of task as described by Kurt Lewin (1948). I refer to them as clubs because this is in line with common parlance in schools. Other terms are also used[1] but eco club was preferred in the two schools where the data collection phase of this research took place.

[1] Eco Group, Eco Council, Eco Committee, Green Club, Green Group, Green Council, Green Committee, Environment Club, Environment Group, Environment Council, Environment Committee are all terms that I have encountered being used to refer to Eco Clubs.

In the United Kingdom (and elsewhere in Europe and beyond) school eco clubs have gained in popularity in recent years. This is evident in the growing popularity of programmes such as Eco-Schools described below (Keep Britain Tidy, 2013). This is in part due to the change in attitudes towards issues such as climate change and conservation that has taken place over the decades since the Brundtland Commission (1987) and the rise of the concept of Sustainable Development. It is not possible to empirically identify the Brundtland Commission as a turning point in the acceptance of environmental issues as serious and pressing by the general populace. However, as the first major formal global organization with the purpose of raising awareness of the issues underpinning the concept of sustainable development, it does provide a useful landmark for identifying an historical change in the way environmental issues such as climate change are viewed.

In England the rise of eco clubs in primary and secondary schools has been facilitated by the work of Keep Britain Tidy, the charity that manages the Eco-Schools programme in England. Eco-Schools is an international EE programme that is managed by different charities in different countries. The programme was set up by the Foundation for EE. According to the Eco-Schools, England website it started in 1994 in 5 European countries, including the UK. The programme is currently running in 53 countries around the world. In England, 70% of schools are currently registered with the programme (Keep Britain Tidy, 2013).

The aim of the programme is to support primary and secondary schools to develop sustainability across the school. The programme is based on a set of awards (bronze, silver and green flag) that facilitate the school to progress towards a more sustainable approach across nine topics that the programme identifies as key. The final award, the green flag, is awarded to schools where it has been deemed that sustainability is more deeply embedded across the school. The bronze award is given to schools that the programme judges to have started to develop EE/ESD at their institution.

Statistics provided to me by Keep Britain Tidy reveal that the numbers of schools registered with the programme has risen steadily since 1995 when there were no schools

to 2006 when 16% of all schools in England were registered with the programme to 2013 when that figure rose to 70%.

Key to this research is the fact that the first step of the programme is the setting up of an Eco Committee. To achieve a bronze award the school has to have an Eco Committee and this has to be maintained to achieve the silver and green flag awards. Figures from the Eco-Schools website reveal that 47% of all schools in England have an Eco Committee as a part of the Eco-Schools programme. This does not include all of the schools that have eco clubs but are not registered with this programme. This is a large number of schools and, more importantly, a large number of children and young people. No firm data are available but the investigations I did for the preliminary phase of this research suggest an average of ten students per group is a reasonable estimate. Multiplying that number per school by the number of schools with an Eco Committee within the Eco-Schools, we get a figure of roughly 100 000 school pupils. This represents about 12% of all the pupils in England. Moreover, this figure likely underestimates the numbers of children involved, as it does not include eco clubs that are set up outside of the Eco-Schools programme.

Thus the small number of studies into a very small subsection of these groups does not represent a sufficient exploration of this phenomenon. An extensive literature search has turned up just three studies of such groups in schools (Lousley, 1999; Carlsson and Saunders, 2008, Schusler *et al*, 2009); only one of which focuses on eco clubs in England, and none of which investigates groups at the primary school level. Before reviewing these papers it is worthwhile speculating about what has influenced the trends in Table 2.4a. One likely factor is the previous government's Sustainable Schools Strategy of 2007. This strategy was the outcome of a policy which had the aim of making all schools sustainable by 2020. Setting aside the question of what this might actually mean, the impact of this policy was a marked rise in support for EE and ESD across schools in England. This correlates positively with the rise in the number of schools signed up to the Eco-Schools programme around 2006/7 when the Sustainable Schools Strategy was launched (Suter, 2013; *personal communication*). It seems reasonable to infer that schools signed up to the Eco-Schools programme to enable them to meet the targets of the Sustainable Schools Strategy.

Although Eco-Schools were unable to provide me with figures beyond those available on the website I have been tracking these numbers since I started this research in 2009. It is worth noting that the number of schools with Eco-Committees has not fallen much

despite the fact that the current government withdrew the policy on Sustainable Schools in 2010. Although there has been a slowdown in growth of the numbers of schools registering with the Eco-Schools programme, this slowdown is likely to be as much a result of the decrease in funding since the financial crisis of 2009 (Suter, 2013 *personal communication*). Government cutbacks have had a particularly strong impact on the money available for initiatives such as sustainability drives. This contention is supported by research by local environmental organisations such as the South West Learning for Sustainability Coalition that have revealed a significant number of redundancies in the sector.

Hence the persistence of these figures suggests that other factors are involved. Speculation about what these factors might be is valuable and a number of alternatives suggest themselves. Chief amongst these is the notion of momentum and critical mass. At a certain level, the networks between schools and the schools themselves become the drivers behind the instigation and sustainability of the eco club. Once a group has been set up in the school it can become part of the culture so that it no longer exists as a response to the government's recommendations for it to be there. The group exists because the pupils and teachers in the school expect it to be there. It has found a niche in the daily fabric of the life of the school. This is perhaps particularly true for the 1 805schools in England that (at the time of writing) have a Green Flag award. The criteria for achieving this award are such that the theme of sustainability and the environment is likely to figure as an element of the identity of the school. It is unlikely that a change in governmental priorities will result in a change in the culture and identity of a school; at least not in the relatively short time that has elapsed since the policy was withdrawn. Scott and Gough (2003) have discussed this idea of institutional inertia and momentum that exists in schools using an analogy of a skier with a heavy backpack traveling downhill. The point they make is that changing direction in schools as arduous and challenging. Although their analogy was meant to describe changes in curriculum, it works here too. Once an eco club becomes a part of the school's culture, so once it has become institutionalized, it is likely to stay, regardless of changes in policy such as those that have taken place in England during the past decade.

Another factor that may have influenced the stability of these figures is the rise in external agencies such as Non-Governmental Organizations (NGOs) and Community Interest Companies (CICs) with an environmental focus. Many of these organizations

focus their efforts on engaging with schools. Although the financial implications of the recent government cutbacks are relevant here too their impact has not been enough to undermine the sector. Some of these organizations work with teachers to provide professional development that highlights the pedagogical potential of EE /ESD, amongst other things. Gayford (2010) identifies a number of organisations that work with schools to provide professional development in this field and identifies high quality, ongoing professional development as a significant factor in the success of EE/ESD. The changes in the focus of professional development identified here have taken place in a climate where there has been a rise in social conscience about environmental issues; as evident from the proliferation of attention that environment and sustainability gets in the popular press. The combination of these two factors are likely to have influenced the mindset of teachers and newly qualified teachers. This, in turn, may influence the way environment and sustainability is addressed in schools and the popularity of programmes such as that offered by Eco-Schools.

2.4.1 Common characteristics of eco clubs in England

In this section I describe the eco clubs that are common in primary schools in England. The description has been developed from the preliminary phase of this research. One aim of this preliminary research phase was to understand what primary school eco clubs look like and what they do. The research involved website reviews of local schools, email communications with local NGO employees working with primary school eco clubs, and visits to two local primary school eco clubs to observe some of the eco club sessions and talk to the teachers in charge of these clubs and the school leaders. (See Table 3a, Chapter 3) for further details of what this research involved).

There are a number of characteristics of eco clubs that are common to the vast majority of eco clubs in schools in England. These include:

- The majority of members are children or young people of school age. In this research school age is limited to primary and secondary school pupils from Year 1 to Year 13 so the possible age range is four to eighteen.

- They have a vertical age grouping structure often including representatives from the full range of ages in the school. For example in a primary school eco club you might have members aged between four and eleven years old.

- There is at least one adult facilitator (e.g. a teacher, the school bursar and/or a parent) in the group that attends meetings.
- The learning that takes place is informal but this is in the context of a formal learning setting.
- The clubs' primary purpose is usually environmental so learning is secondary to having a positive impact in terms of addressing environmental challenges.
- They meet regularly to work towards their goals.

There are also a number of features of eco clubs which vary from group to group. Figure 2.5a illustrates these and captures the range of variation encountered during the preliminary phase of this research. It also draws on the literature review which follows (Lousley, 1999; Carlsson and Sanders, 2008; Schusler *et al*, 2009). The table is also informed by literature on participation (Hart, 1997; Simovska, 2003) and literature about the role of children as environmental change agents (Uzzell, 1999). Other research which address some aspects of eco clubs as part of larger studies also influenced Figure 2.4a. Gayford (2009) investigates eco councils as part of his work on Sustainable Schools. Scott (2013) explores the issues underpinning the development of Sustainable Schools. Barratt Hacking *et al* (2010) explore the evidence for the impact of sustainable schools. The findings from this literature has also influenced the selection of the features of the descriptors suggested for use in describing eco clubs. Moreover, the use of descriptors as a means of describing a the eco club draws on Gayford (2009) and Scott's work in relation to Sustainable Schools (Scott, 2009; 2013). Figure 2.4a is used as a basis for the case descriptions in Chapter 5. It should be noted that the location given to the club on the continuum lines is highly subjective, based solely on my initial exploration of the arena. A fuller investigation of a larger proportion of eco clubs is warranted to be able to verify this positioning.

Table 2.4.1a - Descriptors to illustrate what primary school eco clubs look like and how they function[2]

Nature of club activity

1a) Practical - 'hands on'; outdoors; greening school grounds; increasing biodiversity

Adults lead; children involved----------→ Adults lead; children influence----------→ Children Lead; adults support & assist

Adults choose and plan hands-on activities for children to carry out; adults supervise and direct children in completing activities.	Adults suggest range of activities; children select the ones they want to carry out; children influence plans for carrying them out and adults and children work together to complete them	Children take lead in suggesting activities drawing on their understanding of what is appropriate for their school; children work with adults to select most appropriate activity and to decide how to carry these out

1b) Discursive - Discussion focused interspersed with activities for awareness raising (e.g. making posters; writing eco codes;

[2] Furthermore, the arrows on these descriptors may in fact be misleading in some instances (for example Descriptor 1). They are included to suggest stage of advancement in terms of encouraging the development of action-competence-associated attributes. However, this research suggests that contextual factors within and beyond the club and school may influence their effectiveness in terms of predicting the influence that the club has. These findings strengthen the case for more research in this arena.

planning assemblies) & influencing behaviour (e.g. reducing energy & water usage) and campaigning

Adults lead; children involved----------→ Adults lead; children influence----------→ Children Lead; adults support & assist

Adults choose and plan awareness raising activities for children to carry out; adults supervise and direct children in completing activities.	Adults suggest range of activities; children select the ones they want to carry; children influence plans for carrying them out and adults and children work together to complete them	Children take lead in suggesting activities drawing on their understanding of what is appropriate for their school; children work with adults to select most appropriate activity and to decide how to carry these out

Measure of child involvement in decision making processes /Child leadership

Adults lead; children involved----------→ Adults lead; children influence----------→ Children Lead; adults support & assist

Adults set up club & decide aims & mechanisms; children signed up to help adults achieve these	Adults set up club & suggest aims & mechanisms; children participate in & influence both	Children set up club & decide aims and mechanisms; adults support & assist children to achieve these
No or minimal opportunity for children to engage in dialogue & negotiation in	Dialogue & negotiation evident within	Dialogue & negotiation evident within group and between group & external

group or outside	group	agents (e.g. between children & caretaker)

Head/School Leadership input

Low ----------→ High

Little or no input from school leadership team either directly by talking to children & engaging with activities or indirectly through communication with adult members	High degree of involvement by leadership team through actively participating in meetings &/or activities

Prominence in School

Low ----------→ High

No visible evidence of existence of club around the school; no attention given to club by school governing body	Group's outputs given prominence around the school on notice boards, webpages, newsletters, in assemblies; group mentioned in school development plans; prominence on school governing body and leadership agendas

Parental support/Parental involvement

Low ----------→ High

Little or no parental support or involvement either directly or indirectly	Parents supportive and indirectly involved through being provided with updates and/or newsletters or webpages; no direct involvement	High degree of support and involvement both directly through having a parent member; and indirectly through being provided with regular updates through newsletters and webpage updates

Links to local community

Weak----------→Strong

No engagement with local community or Minimal engagement through inviting local experts into the school If external agents (e.g. NGOs) are involved adults lead their involvement; children do not interact with them	Engagement with local NGOs and charities and parental community One directional influence might involve children going out into community or community coming into the school Children work with external agents but are led by them	Bi-directional influence between group and community through for example, mutually beneficial engagement with an environmental issue relevant to the local community (including the school) Children work with external agents; bringing them into school and leading their involvement, supported by adults

Key: the line represents the continuum for each Descriptor; the attributes are given by the text on the line; the text below the line describes each attribute through examples

Table 2.4.1b Characteristics that can vary from club to club where a continuum is not usful

1. **Length of meetings -** 15-30 minutes; 30-45 minutes; 45-60 minutes; 60 minutes or more
2. **Regularity of meetings -** Weekly, fortnightly, termly, annually
3. **Time of meetings**

- Out of lessons – lunch time or after school
- During lessons

4. **Procedures for joining the club**

- Election – Council style groups with two or more representatives per year elected by tutor groups
- Volunteering – Children choose to join the group
- Petitioning – Children write a letter to explain why they feel they are a good candidate to join the club; existing members vote to allow them to join

5. **Age Range of Members**

1. Vertical (crosses the range of ages in the school)
2. Horizontal (all members from one year group)

6. **Size of Group –** 5-20 members (children)

Literature Review

Lousley (1999) writes about her ethnographic research of four clubs in secondary schools in Canada. She positions herself firmly in the critical pedagogy onto-epistemic frame and as such, this paper is intellectually consistent. In this study, she investigates what she perceives as the clash between the activism of environment clubs (her terminology) and the hierarchical nature of school structures. This highly critical account of the experience of the children in the clubs she visits is useful in that it highlights the potential pitfalls of participation in such clubs. For example, Lousley talks about the way in which the teachers in the clubs she investigated tried to steer the students away from addressing political issues. But in so doing she does not address the fact that teachers may have considered and valid reasons for doing so. Her somewhat simplistic analysis is that such clubs cannot function effectively within the formal hierarchical structures of the school system. While the conflicts she focuses on are real and valid, it ignores the fact that learning to negotiate these sorts of conflicts while at school does help to prepare students for facing similar conflicts in the workplace and elsewhere. On the one hand there may be good ethical, practical or legal reasons to steer children and young people away from active engagement with current political controversies, on the other hand the framing of activities of this kind may enable students to learn how to negotiate such situations outside of school, both in the present and in later life.

These conflicts are well framed and philosophically consistent with cultural theory and the work of Gough *et al.* (2000). These authors use cultural theory from anthropology (attributed to, *inter alia*, Thompson (1997)) to describe and explain how one individual can exhibit seemingly irreconcilable behaviours with respect to (in this case) environmental issues. For example, an individual chooses to buy organic food in the belief that it is less harmful to the environment whilst concurrently, regularly taking long-haul flights as part of her/his employment; notwithstanding the commonly held view of the negative impacts this has on the environment. Cultural theory posits that this ability to adhere to seemingly diametrically opposed principles can be explained by the plurality of solidarities

that function in the lives of individuals. Each individual finds her/himself a party to a number of different institutions such as school, or work or social institutions such as a golf club or reading group, and a home. Successful engagement with these different institutions requires the ability to differentially prioritise principles as required. The ability to achieve this differential prioritisation is the outcome of experience and re-actualisation of that experience in different encounters until a dynamic equilibrium is established that enables the individual to achieve a sense of well-being. Such experience can only be gained through living in the given world.

The instance of conflict identified by Lousley (1999) and evident in most of the eco clubs encountered during this research, where children are a part of a group commonly organized around the participatory principles of shared power and leadership but nested within an institution organized around hierarchical principles, is a particularly stark example of the plurality of solidarities encountered by both children and adults on a daily basis. Instead of attempting to change or eliminate these situations which are (pragmatically speaking) an inevitable feature of the lives of all individuals, this situation might be seen as an opportunity for children to gain experience that will help them to negotiate the complex relationships and interrelationships they encounter, both in their daily experiences and in their future lives. An approach such as this would allow for both the requirement for authentic experiences underpinning the action competence approach and the development of citizenship through subjectification outlined by Biesta (Biesta, 2011) and described in Chapter 2.2.

Lousley (1999) does identify a number of positive outcomes of the existence of such clubs which she suggests might be investigated in future studies and some of which are addressed in this research. These include the benefits of working in a self-organized group with an informal agenda in a formal setting.

Carlsson and Sanders (2008) investigate the effectiveness of environment councils in schools as an arena for participation. They compare two case studies: one of secondary school environment councils in Denmark and the stakeholders

involved (e.g. the co-ordinator of Eco-Schools in Denmark) and the other, two secondary school environment councils in England working with the charity *Learning through Landscapes*. Carlsson and Sanders adhere to the terminology and theoretical body of literature that couches participation in terms of 'genuine' and 'tokenistic' involvement. The concept of participation has been discussed in depth in Chapter 2.3 where I contend that the use of this concept as a means of evaluating undertakings can lead to, *inter alia*, oversimplification of the situation (Lassoe, 2010). This can then result in the discounting of genuine benefits that children derive from such experiences; including the potential for learning to evaluate and be critical of projects that do not attain their espoused objectives. The authors conclude that young people involved in these councils are often caught between a number of stakeholders and structures, such as the school's hierarchy, the teacher facilitators and the external bodies supporting the work. The authors do not adequately address the learning potential that might accrue for this eventuality; although they clearly identify that the children are consciously aware of the conflicts between the priorities of the different stakeholders. They even go so far as to identify that the children modify their behaviour accordingly. The application of cultural theory as outlined above to the findings from this paper would lead to somewhat more elaborate conclusions that account for the positive potential of engagement with different stakeholders offered by these encounters. The findings might still suggest improvements to the way the environment councils in this research are run. However, these might foreground the learning potential of the encounters through encouraging a reflective, open approach to the engagement with the differing priorities of the various stakeholders.

The criticality of both these papers is important in that it contributes significantly to an understanding of the encounters that take place in eco clubs. However there is an implicit assumption that these situations are unsatisfactory and do not as they are, represent significant learning opportunities. In this research, I attempt to take an observant and more open stance while retaining a strong sense of criticality. I set out to describe the situations and encounters as they are

in a way that does not overlook or unduly diminish any opportunities for children to develop their action-competence-associated attributes.

The third paper cited earlier, Schusler *et al*. (2009), investigates eco clubs in the US from the perspective of the practitioners and facilitators of the groups. The researchers start from the premise that environmental action creates positive social and environmental change. The research has two foci: the first is the practitioners' perceptions of the aims of youth participation in environmental action; and the second, what the practitioners' view success in this regard is. The research takes the form of interviews in the narrative style. Many of the practitioners interviewed were working on curricular projects in classrooms but some worked with eco clubs such as those investigated for this research.

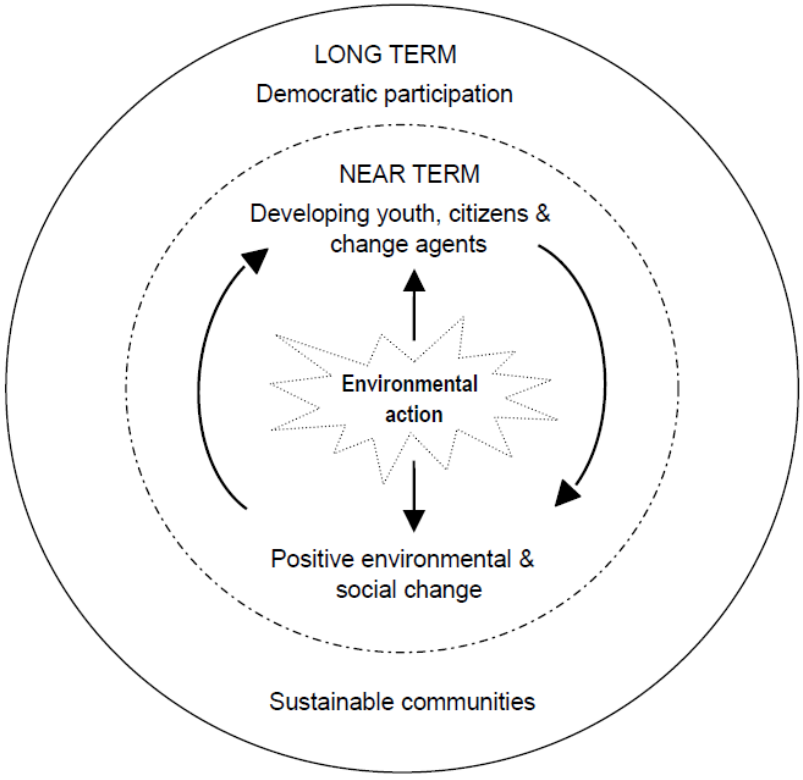
The findings are relevant here as they identify the development of the young people engaged in the work as central. In other words, the environment provides a focus for the work of the young people but the aims of the practitioners facilitating the work is that to provide young people with opportunities to develop the attributes that will enable them to engage with society at a social and a political level. For these practitioners, success lies not in the solution of environmental problems but in the developments they observe in the young people they support. This theme was common to all of the interviews. One particularly striking example that is quoted in this paper is:

'*…people think they're coming here to see the butterflies but what most people comment when they leave is not about the butterflies but is about the students. The poise that the students show, the knowledge that the students show and basically… how well the students present themselves to the general public.*' (Schusler et al. 2009; p. 118)

This paper makes a strong link between participation in environmental action and the development of civic engagement. (In the US, civic engagement is the preferred term for what in the UK is commonly termed active or participatory citizenship.) The following quote exemplifies this link:

'Success involves neither solely improving the environment, nor solely developing youth. Success is the synergy arising in the interactions between youth and community development: the environmental/community change and personal growth occurring when youth contribute to community development, which in turn contributes to youth development, which in turn contributes further to community development in an on-going cycle of individual and community transformation.' (Schusler et al. 2009; p. 120)

Figure 2.4.1 - The relationship of youth participation in environmental action to individual and community development, including a positive feedback look between them (Source: Schusler *et al.* 2009; p. 122)



The figure above adapted from Schusler *et al.* (2009) captures this cycle. This research builds on Schusler *et al.*'s research by investigating how the work of

practitioners in the field is manifested in the setting of an eco club in selected primary schools in England. Through participant observation and the participatory consciousness this enabled me to develop, I am able to explain how the encounters engendered by the efforts of such practitioners afford opportunities for the development of attributes that support children as active citizens. By focusing the analysis on the children in the groups I can explore the phenomenon through my interpretation (as a participant in the group) of the children's perspective.

2.5 Conclusion

The exploration presented in this and the previous chapter of the theoretical intersections in the fields of action competence in EE, citizenship and democracy, participation and research into eco clubs, justifies the research on the following grounds:

In terms of action competence this exploration suggests the need for clarifying how the action competence approach is to be understood. The clarification suggested here enables the application of the research in arenas where it might otherwise not be useful; arenas where the teaching and/or learning is not influenced by the action competence approach. This research suggests how it might be used as framework for analyzing children's participation in eco clubs.

1. In terms of CE, this and the previous chapter present an argument for investigating how the aspect of many children's everyday experience (eco club participation) contributes to their development as both current and future citizens.

2. In terms of action competence and CE this and the previous chapter suggest a way in which action competence can support and facilitate the kind of research suggested in Point 2.

3. In terms of eco club practice, this exploration posits the need for research in this arena. This is a largely under-researched arena which is an

experience of a significant proportion of the children at primary and secondary school in England; hence it merits academic and practitioner attention.

In the next chapter, I continue the exploration of participation, positing its place in this research at the intersection between methodology, epistemology and ethics.

Chapter 3

Methodology

3.1 Introduction

In this chapter, I delineate the methodology of this research. In so doing I set out the assumptions that underpin the research and link these to the methods that I employ to carry out the investigation. I use a funnelling approach to achieve this. I start with a description of Education as a discipline. I then give a general description of methodology that necessitates a general explanation of ontology and epistemology in Education. The combination of these two terms in the concept of onto-epistemic framing follows. Validity and reliability and ethics are posited as elements of the methodology of research that are implicated in this onto-epistemic framing. A general description of these elements is provided. The onto-epistemic frame, validity and reliability and ethics are then contextualised within a discussion of the transactional approach and participatory consciousness as located in philosophical pragmatism.

The case study approach is introduced as an appropriate means of investigating within the framework outlined and for the question being investigated. The final section deals with the methods used in the fieldwork phase, which are participant observation and interviews.

A model is used to elucidate how these elements (i.e. the theoretical perspectives including the transactional approach, participatory consciousness and philosophical pragmatism, issues of ethics and validity, methods for collecting and analysing data) and others (the cultural and policy based context) interact to create the methodology of this research.

3.2 Education as a Discipline

In Education, the delineation of boundaries around the research field adequately enough to make the field stand alone as a discipline is problematic (Robottom and Hart, 1993; Husen, 1997). Husen quotes William James when he describes Education as a practical art, as opposed to Education as a discipline. Education deals with matters that are well situated in the fields of sociology, psychology, biology, art, management to name only a few. It also deals with a range of ideas that are particular to it but difficult to identify.

Carr and Kemmis (1983) overcome this problem by defining educational research as that research which deals with problems in educational *practices*. They ground this in an understanding of problems about practice, as problems about actions. They define action as behaviour which is the outcome of the intentions of the actor. It is noteworthy that this is consistent with the conceptualisation of action in action competence theory as outlined in Chapter 2.1. They make explicit a link to theory through this definition of action. For them, the intentions of an actor are derived from the actor's guiding theoretical principles. Hence any problem that a researcher investigates occurs when there is disconnect between the practice and the theory, such that the intended consequences of the actor's actions are not evinced in practice.

I agree that educational research must be linked to practice because education is practical (Hart, P., 2000a). However, I am not convinced that educational research always has to be about practical *problems*; or indeed, that the only reason for doing educational research is to instigate change in response to such a problem.

There are situations where there is simply a need to explore and exhibit practice in a field by describing it so that others (for example other researchers or practitioners) can be made aware of how practice emerges in different contexts. This awareness enables them to evaluate their own experience in their own setting against that which has been described. They are then able to make use of the research in whatever way they see fit. This is in line with how Yin (2009) deals with the oft-cited criticism of research from a subjectivist position. The criticism that the findings are not generalizable because they are bounded by

contextual factors and beholden to the interpretation of participants and researchers alike is not problematic. The contribution the research makes to knowledge is valuable because it develops the field through providing in-depth studies within it. Practitioners and researchers that are exposed to it can make their own judgements about whether it is useful or not (Dunne *et al*. 2005).

Moreover, the disparate nature of research in the discipline of education is in some senses liberating. It allows researchers to choose methods that are determined by the research questions and purposes of the research, rather than by the conventions of the discipline in which they are working. Consequently, it allows researchers to ask questions that are relevant to practice without being constrained by the ontological and epistemological conventions of their discipline. Connell (1997) emphasises the importance of letting research questions lead the methodological approach. She draws this conclusion from an exploration of methodological approaches in Education that identifies the need for researchers from different methodological perspectives to see their work as mutually reinforcing; to work in complementary rather than antagonistic ways.

This brief exploration of the question of the definition of Education as a discipline is by no means exhaustive but is included because it locates this research in that discipline. This research is situated in the discipline of Education in an informal environment within the setting of the formal primary school. Although it is about practice in this context, it is not about a problem in the sense that it does not start from a disconnect between theory and practice. It starts from the identification of the potential for a particular theory to elucidate practice in an arena where it has not been used before.

The next section deals with methodology generally in Education and specifically in this research. Its purpose is to locate this research in the philosophical foundations of Education.

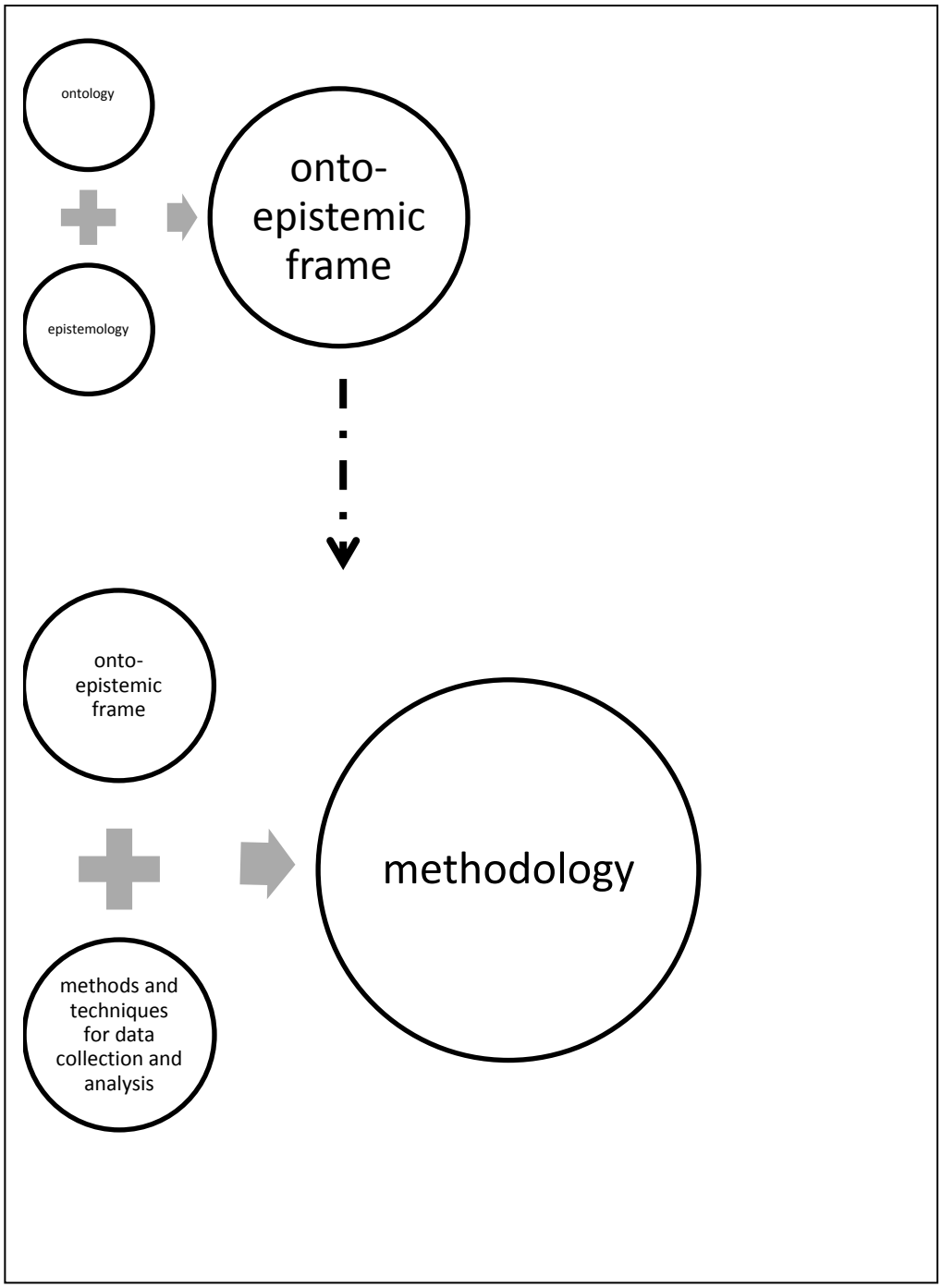
3.3 Methodology generally

The meaning of the term methodology is contested (Gough, 1999; Dunne *et al*., 2005; Katayama, 2009). The way that the term is used in common parlance between researchers exacerbates this situation. For most, it is a collective noun for the tools, techniques and practices used during the fieldwork phase of a

research project. However, this is misleading as it discounts what is perhaps the most significant aspect of the concept, the underlying assumptions about the nature of knowledge and reality made by the researcher (Hart, P.; 2000a). Methodology is the outcome of the coming together of theoretical and practical aspects of a research project. It is the product of the two and its active effect on a research project is to determine what methods and techniques for gathering and analysing data can be excluded or included. Methodology is about the underlying assumptions that determine the selection and employment of the methods used.

Figure 3a introduces the idea of onto-epistemic framing to refer to the combination of the ontological and epistemological elements of research (explained later) and illustrates the relationship between onto-epistemic frames and practical methods and techniques used to collect and analyse the data used to respond to the research question.

Figure 3.3a - To show how the onto-epistemic framing of research project interacts with the methods and techniques used to create the methodology.



The onto-epistemic framing of a research project indicates the researcher's position on the nature of knowledge. Without an explication of this position, the meaningfulness of the findings of the research is compromised. In the following section, I provide a brief exploration of the prevailing positions on the nature of knowledge in Education.

3.4 Onto-epistemic framing

Ontology (or the nature of reality) and epistemology (or what counts as knowledge) are inextricably linked at the level of impact on research projects. Thus positions such as critical realism have both an ontological and an epistemological meaning. In this section I explain why this is the case and define each separately but for the purposes of clarity, when referring to the combined ontology and epistemology of a research project I will use the term onto-epistemic frame. This term is borrowed from Paul Hart (2012).

Commonly, groups of researchers share ontological and epistemological positions; the term paradigm has been co-opted from Kuhn's work to refer to the phenomenon where groups of researchers both within and across socio-cultural divides share a common position on ontology and epistemology (Husen, 1996; Walker and Evers, 1997). It has been argued that this use of the term paradigm is in fact erroneous. In this research, I prefer the term worldview to refer to widely shared onto-epistemic frames.

Although the inextricable linking of ontological and epistemological dimensions of research into an onto-epistemic frame is undeniable, it is necessary to unpick the two dimensions for the purposes of understanding the way in which different ontological and epistemological positions influence research. This is because the relationship between ontological and epistemological dimensions is not necessarily consequent. In other words, having a particular position on ontology does not necessarily (and exclusively) entail a corresponding position on epistemology. This outcome is exemplified by the objective/subjective divide where researchers might have an objective position on reality but a subjective position on knowledge. The objective/subjective distinction will be used in the

remainder of this section as it makes a relatively simple explanation of these very complex ideas possible.

Ontology holds that reality is by nature is either objective or subjective. If reality is objective, it exists separately from our perception/conception of it. If reality is subjective, it is actualized by the very act of perception/conception.

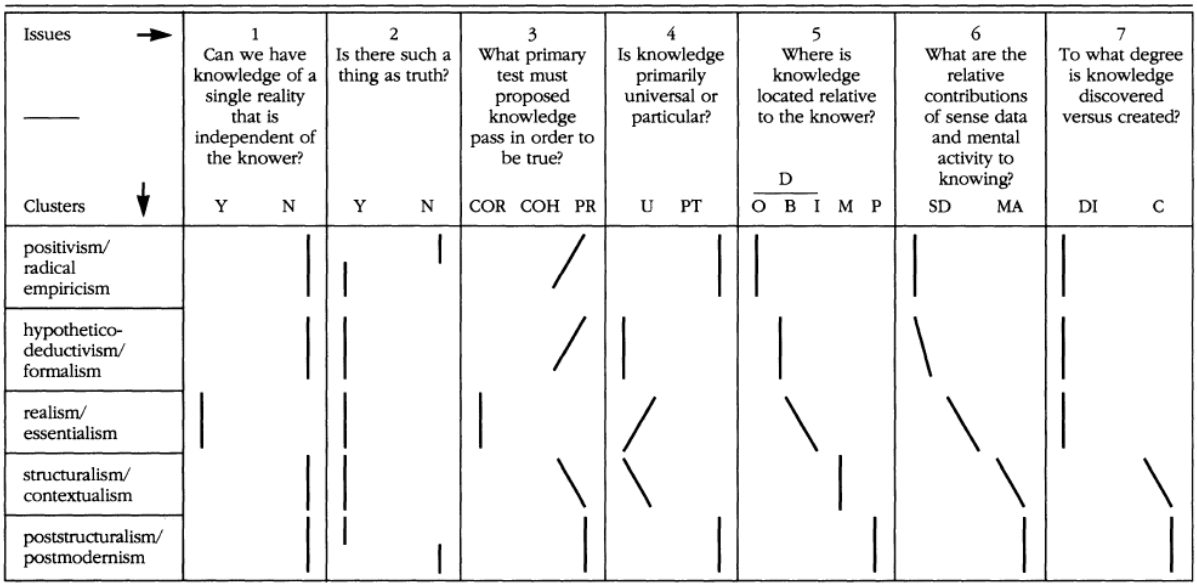
Knowledge is similarly either objective or subjective. If knowledge is objective, then what we know of reality corresponds precisely to what exists separately from our knowledge of it. If knowledge is subjective then what we know corresponds to our embodied mind; what we know is an interpretation of reality arrived at through our own personal socio-cultural-historical experience and biochemical physical condition.

In a wholly subjectivist position, it is impossible to separate ontology and epistemology out from each other; For example, if reality is wholly a construct of the mind then it does not exist if we do not know about it. Reality is our knowledge of it. It is actualized by our knowledge of it. Such a position is termed nominalism. In nominalism what exists are the signs and symbols used to make meaning and nothing beyond those is real (Gough and Stables, 2012).

The complete impossibility of such a position leads me to reject it. There is no way that something can exist only because I know it if I do not myself exist. I think because I am *not* I think therefore I am.

However, determining my own position is complicated by the myriad of options and differing positions held (or claimed) by researchers and philosophers in Education and beyond (Hart, P., 2012). The explanation of the range of positions is outwith the scope of this research. However, the topology below taken from Cunningham and Fitzgerald (1996) is a very useful guide that is both complex and yet comprehensible. It is included because it illustrates the range of defensible positions in education. It is also useful as it helps to locate this research in the field.

Figure 3.4a - Cunningham and Fitzgerald's topological map of five epistemological clusters clusters' positions on seven epistemological issues (Cunningham and Fitzgerald, 1996).



Note. Y = Yes, N = No; COR = Correspondence, COH = Coherence, PR = Pragmatic; U = Universal, PT = Particular; D = Dualism, O = Outside, B = Between, I = Inside, M=Monism, P = Pluralism; SD = Sense data, MA = Mental activity; DI = Discovered, C=Created.

There is a more or less historical development evident in moving through the clusters down the left hand side of the topology from the positivism/radical empiricism cluster to the poststructural/postmodernism cluster. The spectrum of epistemological positions illustrated here is admirably captured by the identification of seven epistemological issues.

The positivism/radical empiricism cluster is interesting because it has long influenced educational research and still holds sway where behavioural objectives are evident (Cunningham and Fitzgerald, 1996). In this cluster, reality is that which we observe (issue 7 – knowledge is discovered) but our observations are independent of our body (Issue 5 – outside); hence there is mind/body dualism. Objectivity can be attained because knowledge is generated through deductivism. In other words, knowledge can be deduced from observations. What we know, we know because we have observed it. What we know is what we discover using our

senses (Issue 7). Truth is pragmatically determined because its results show it to be true or because it is coherent with other premises in a system (Issue 2). Truth is accepted when a premise has been observed to be consistent with a set of associated premises (coherence). Truth is accepted when the consequences of the premise can be observed to be consistent with the premise under investigation (pragmatism). Our senses are not influenced, or at least can be bracketed off from, our embodied experience (Issue 5 and 6). Consequently, knowledge is objective because it is deduced from observations. These observations can be decontextualized (Issue 5). Reality is subjective because it is the discovered through our sense. In other words, reality is what we observe, not what exists separately from our observations. This is therefore an example of an ontologically subjective, epistemologically objective framed cluster.

The realism/essentialism cluster is interesting because it is the only cluster in this map that permits the existence of an objective reality (Issue 1). Cunningham and Fitzgerald (1996) posit it as the 'philosophy of the ordinary person engaged in living'. Acceptance of reality apart from human appreciation of it expedites daily living; hence this 'naïve realism' is a common sense philosophy of living. In this cluster truth is attainable (Issue 2) and it is what corresponds to reality (Issue 3). Hence, knowledge is true and corresponds exactly to reality that exists outside of the mind (Issue 5). Knowledge in this cluster is discovered (Issue 7 through a combination of mental activity and observation (Issue 6).

In the context of this research it is valuable to identify that critical realism sits in the realism/essentialism cluster in this topology. The reasons for identifying critical realism's position emanate from the theoretical perspectives that underpin this research. As explained in Chapter 2, the action competence approach developed out of critical theory. Katayama (2009) has identified that there is confusion in the EE literature about the distinctions between critical realism (essentially a philosophy about the perception of reality) and critical theory (essentially a theory that operates at the social level and is about critiquing and changing society). In reading for this research I identified the same problem and since I have already outlined critical theory it seems appropriate to point to where critical realism fits.

Cunningham and Fitzgerald's topological map identifies pragmatism as the initiator of the hypothetico-deductivism/formalism cluster but it does not actually

sit comfortably in this cluster. Pragmatism emerged in America in the latter half of the 19th century with authors such as C.S. Pierce, William James and John Dewey. Pragmatism's central tenet is that knowledge is a tool which is true for as long as it is useful. Knowledge is judged on its consequences rather than its correspondence to reality. Truth is accepted to be the explanation that best fits the premises being investigated; here the theory of evolution is implicated in pragmatism (Gough and Stables, 2012). Thus for Issues 2 and 3 pragmatism is consistent with the second cluster. However, there is no reason why pragmatism should not admit to an external reality or truth (as long as this does not conflict with the usefulness theory of truth) and this conflicts with the position of this cluster on Issue 1.

Consequent on the onto-epistemic framing of research are the way in which the research handles issues of ethics and validity and reliability. The way this research approaches these issues is detailed in Chapter 4 and 5 respectively. In this section I give a general description of both of these elements of research that alludes to some pertinent historical developments. This is followed by a discussion of the transactional methodology that draws together the onto-epistemic framing of this research with reliability and validity and ethics.

3.5 Reliability and Validity in Qualitative Research

Approaches to reliability and validity in research are implicated in the onto-epistemic framing of research. The claims that a researcher can make about the validity of her/his data is consequent on the researcher's position on truth. If the researcher takes a positivistic approach to data collection then the data gathered can only be valid if the findings can be said to the outcome of the researcher's observations generated from sense data (Issue 6 in Figure 3b). On the other hand, if the researcher takes a poststructuralist approach then valid data have to account for plurality and cannot be claimed to be generalizable beyond the confines of the cases under investigation (Issue 4 in Figure 3b).

A trend in social science research is to avoid terms such as *reliability* and *validity* (e.g. Marshall and Rossman, 1989, Lincoln and Guba, 1985), replacing them with terms such as *credibility, transferability, dependability* and *confirmability* (See

Table 3a below). This appears to be the outcome of trying to adopt a wholly subjectivist, anti-positivist worldview to research in the social sciences by denying any possibility of overlap between the constructivist and positivist approaches. However, constructivist researchers continue to advocate the need to be systematic in collecting and analysing data. What is the purpose of taking a systematic approach if this is not to arrive at findings that are reliable? How can a systematic approach be claimed if the methods used have not been documented so that they can be scrutinised? Peer review, the means by which all new knowledge is evaluated, is only achievable in cases where systematic, well-documented approaches are evident. The findings of a research project will only be given credence if the methods involved are judged to be reliable, regardless of how it is labelled.

Moreover, the generally accepted purpose of research is to produce new knowledge that can move understanding forward, both within and beyond a field. The potential for success in this endeavour is enhanced by maintaining parity across epistemological and ontological divides with regard to the integrity of the methods used to generate the knowledge (Connell, 1997). By using terminology that is understood across these divides, the research has greater potential impact. Consequently, I choose to use the historically and commonly employed terminology of *reliability* and *validity*. Nevertheless, the work of researchers from the subjectivist side of these onto-epistemic divides serves the purpose of delineating the manner in which these concepts can be applied to qualitative data and as such, they are useful here.

Table 3.5a: Validity and its counterparts

Quantitative terminology	**Qualitative complements**
External validity	Credibility
Internal validity	Transferability
Reliability	Dependability
Objectivity	Confirmability/Transparency

Silverman (2009) suggests four techniques for ensuring the validity of findings from qualitative research projects. These are:

- Constant comparative method
- Comprehensive data treatment
- Deviant case analysis
- Using appropriate tabulations

In Chapter 9, I explain how I apply these techniques to the data collected for this research.

Heshusius (1994) makes some pertinent points about the way in which researchers manage their subjectivity in an attempt to increase the reliability of their research. Her point is that, in attempting to identify our own subjectivity (for example, by being explicit about assumptions about knowledge), we are attempting to be objective about our subjectivity. In separating it out (or bracketing it off) we are implying that the data we present are no longer affected by it. Moreover, inherent in this approach is the assumption that the researcher is able to identify all of their own subjectivities; that the researcher can in fact be objective about themselves. This criticism is certainly appropriate. However, mitigation comes from the principle that for much subjective research, the responsibility for identifying subjectivity is the responsibility of both the researcher and the reader. In other words, it is the responsibility of the researcher to present the research, as well as their own position in its generation as explicitly as possible. Concomitantly, it is the responsibility of the reader to see how they can identify with the research, and develop it for their own purposes (Yin, 2009). In so doing, the reader must themselves be wary of implicit subjectivities. Carter and Little (2007) refer to some of these issues as axiological because they are products of the values of the researcher. Essentially, this is a question of ethics. The researcher and research reader are both obliged by a code of research ethics. The researcher is ethically bound to present their research as fully and honestly as possible. The reader is bound to

read it with full and present attention, and to draw from it only what they can use and accurately interpret through their own experience.

3.6 Ethical considerations

As fundamental as both the theoretical and practical dimensions of any research project in Education, are the ethical considerations that guide the methodological decision making process. In education, this is tied up with the researcher's approach to knowledge and reality. For much research, it is common and even advisable to separate ethical considerations from other aspects of the methodology. This ensures that the researcher checks the decisions they make about the appropriateness of a particular method against an ethical code of practice. The decision to include or exclude a technique or practice is made based on this code. Decisions about how to implement methods and techniques are made on the same basis.

However, in researching with children and young people a different approach is required. Ontological and epistemological approaches must contain *within* them an ethical dimension: the ethical dimension should form the foundations of the researcher's approach to reality and knowledge. To separate ethics from ontological and epistemological assumptions is to risk weakening the ethical soundness of the project; making it an add-on rather than an integral part of the researcher's approach to generating knowledge about an issue.

Heshusius (1994; p19) talks about ethics from the perspective of participatory consciousness as the 'recognition of kinship'. For her, once she identified with her research participants she felt she came to understand their activity. Once she understood their activity in this way, understanding became a question of ethics. 'When one forgets self and becomes embedded in what one wants to understand, there is an affirmative quality of kinship that no longer allows for privileged status. It renders the act of knowing an ethical act.'

Nevertheless, for the purposes of the production of a thesis it is necessary to make explicit the aspects of the methodological decision making process that are attributable to ethical considerations. This demonstrates the researcher's commitment to the generation of knowledge that addresses the research question in a manner that maintains integrity with the researcher's values. It also

demonstrates that these values are compatible with an ethical approach to research in education, and in society more generally.

Current positions on the need for researchers to employ data collection methods that conform to ethical protocols are strong. It is the convention (in line with BERA guidelines, BERA (2011)) that any doctoral research involving human participants must be scrutinised by an ethics committee and must conform to an ethical protocol. This has not always been the case. In fact, some of the knowledge generated before the advent of ethical protocols and committees was generated in conditions that are now considered to be unethical and harmful. For many researchers doing this kind of work, the justification was that the outcome of the research would be the identification of truth that would lead to the betterment of society and the human condition. Thus the harm suffered by individuals was considered an unfortunate outcome of a necessary process. Knowledge generation was privileged over considerations of human suffering; this implies a separation of the known from the knower. The researcher saw themselves and their purposes as being important enough to render considerations of harm meaningless.

Current research does not proceed in this manner; instead it bolts an ethical protocol onto the research strategy whose aim is to avoid harm to the research participants. For example, researcher and researched will be bound to an anonymity clause by a signed document. Often this is done without reference to the context where anonymity might be both unnecessary and impracticable (Tilley and Woodthorpe, 2011). In these instances, anonymity simply impedes the researchers' attempts to uncover the knowledge inherent in a context, resulting in the generation of knowledge that is, in fact invalid as it does not have recourse to all of the information held by the onto-epistemic framing of the research, to be relevant to the situation in question.

A problem here is in the position that truth is considered to be determinable and to have primacy over all other considerations. A collective worldview on knowledge is that it can be described apart from the context in which it resides. Understanding of a situation can be separated from the situation itself. Knowledge is generated for the sake of knowledge, not for the sake of people.

Knowledge might be generated for the use of people, but it is generated in spite of them. As such, ethical protocols (and successful adherence to them) matter because they ensure that, in separating or foregrounding knowledge over people, we do not harm the people involved. This separation of ethics and knowledge is a consequence of the mind/body dualism alluded to previously. Because knowledge is so often held to be separate and separable from the context in which it is generated, it is given value as a separate entity. If knowledge were always treated as embodied, its value would be tied up with the value of the embodiment. Hence it would necessarily be implicated in the axiology of the research (Carter and Little, 2007).

In a different worldview where knowledge is embodied in the encounter, akin to Dewey's transactional approach or participatory consciousness as outlined by Heshusius (1994) and Paul Hart (2008), it is possible to imagine no need for separate ethical protocols. The ethically appropriate actions will emerge in the encounter in which the research takes place. Bearing in mind the socially constructed nature of knowledge, an aspect of that social construction should be its adherence to contextually defined ethical principles. These ideas will be developed in Chapter 4. The next section describes the roots of these ideas by delineating their foundations in a transactional methodology and the concept of participatory consciousness.

3.7 A Transactional Methodology

Pragmatism as an onto-epistemic frame for research in education has recently emerged in the work of *inter alia*, Biesta (Biesta, 2010), Ohman and Ostman (2007) and Gough and Stables (2012). The practical epistemological analysis approach of Ohman and Ostman has influenced the research strategy of this research, whilst Biesta's conceptualisation of education for democratic citizenship and participation are influential elements of the theoretical perspectives of this research. The Darwinian link to pragmatism highlighted by Gough and Stables (2012) is consistent with this research's interpretation of pragmatism.

Biesta (2010, p. 711) describes pragmatism in the following manner: 'pragmatism put "the life of association", and more specifically processes of participation, collective meaning making and communication, centre stage.' The transactional

approach to generating meaning obligates the researcher to work in the context of the question. In other words, to understand the world of the research participant, the researcher must interact with the world and in the world of the research participant. Knowledge about the phenomenon is generated in action in the phenomenon. The transactional approach, therefore, enables the researcher to get at the life of association through participation, communication and collective meaning making. The transactional approach enables the researcher to generate pragmatically framed knowledge about reality, as defined by Biesta.

The epistemology of participatory consciousness (Heshusius, 1994; p. 16) is consistent with the transactional approach. 'Participatory consciousness is the awareness of a [deep] level of kinship between the knower and the known.' It is the understanding that is garnered from experiencing a phenomenon first hand; from participating in its instantiation. Participatory consciousness requires that the researcher becomes immersed in the actuality of the problem; actions in such an approach result from engagement, not intention. Participatory consciousness at this complete level could be argued to be incompatible with participant observation. Participant observation involves the researcher's preconceived strategies and interests in the actions that are being investigated. To fully achieve consciousness through participation, the researcher would simply participate. Meaning would emerge from the interactional activity that takes place when the actors are engaged fully in what they are doing. 'A participatory mode of consciousness, then, results from the ability to temporarily let go of all preoccupation with self and move into a state of complete attention' (Heshusius, 1994; p 17).

The letting go of preoccupation is clearly a difficult. Being able to separate oneself from preconceptions, particularly in the process of investigating a question that arises from such preconceptions is challenging. It is also difficult to reconcile with the process of data analysis in that it suggests that knowledge (or meaning making) will emerge in the event of participating. Thus there would be no need to analyse the data, as the data would be the findings. There are practical differences of reconciling an approach which treats data collection and analysis as one phase with the need to produce evidence-based findings. Hence, the epistemology of participatory consciousness might be seen as the

unattainable ideal. However, the endeavour to reach it in a transactional methodology is sufficient to generate valid data for analysis.

There are interesting parallels to be drawn between participatory consciousness and discoveries in the field of biology and neuroscience. It is accepted that very little of the function of our brain is actually devoted to conscious thought and the idea that the conscious mind is in control of what we do. Hence the maxim: 'I think therefore I am' seems debatable. If the conscious mind is not in control, or if there is any question that it is, there is a need to re-evaluate how we approach issues of ontology and epistemology. If we cannot determine whether the knowledge we have (or think we have) is actually what guides our actions, then the question of whether it is socially constructed or not, is immaterial. We will not gain anything from knowing anything about what we know, if what we know is not what determines what we do.

If what we do is, in fact, guided by processes that take place outside of our conscious mind then the maxim: '*it is true because it works'* is the only position on truth that matters. The endeavour of attempting to determine the nature of reality and truth would be fruitless in the face of uncertainty introduced by biological indeterminacy.

Nonetheless, it is possible to hold a position on ontology that is realist, on knowledge that is socially constructed and on methodology that is transactional. For example, it is possible to know that light has wavelengths that are differentially perceived *and* that different people interpret these wavelengths as different colours so people know different wavelengths as different colours. It has been suggested that language and culture have a determining influence on the way people see colour (for example, the Himba people in Namibia in Africa identify colour very differently from Europeans, Liu, 2011), pointing to a socially constructed neuronal adaptation. This is consistent with the Darwinian notion that our brains have evolved to provide us with a useful view of the world; which we can know in our minds (Gough and Stables, 2012). What these interpretations point to is an onto-epistemic frame from the philosophy of pragmatism.

In the context of the difficult philosophical tradition of pragmatism, I have begun to unravel Dewey's idea of transaction through the writing of Biesta (2011) and

Ohman and Ostman (2007). Dewey himself defines transaction as a methodological approach rather than an attempt to institute a new worldview (Bentley & Dewey, 1949/1991). I will focus on transaction rather than pragmatism. This approach is justified because this research does not explore questions of reality and knowledge for which an exhaustive understanding of pragmatism would be prerequisite. This research explores human activity in a specific arena for which methodological issues matter. Although onto-epistemic framing is implicated in methodological issues the level of discussion of these issues already provided is sufficient to inform an understanding of the methodology employed in this research. Hence, I will outline the meaning of transaction for this research, and its influence on the research methodology. The meaning of transaction is elucidated through its association with the participatory mode of consciousness.

Transaction is the idea that the meaning of language (or dialogue) emerges in encounters between individuals and between individuals in their environments. It is reciprocally and mutually determined. Language is the preferred term in the writing of Ohman and Ostman but in this research I will use dialogue. This is because language in common parlance is associated with a less active, more constructed concept. Another term might be discourse, as used in discourse analysis. The strength of the term discourse is its association with action. Discourse is seen as language in action; discourse is language doing something. It is more than expression of meaning; it is the production of meaning (Paltridge, 2006). However, discourse is associated with a particular methodology (discourse analysis) which is not appropriate for this work because it dissociates speaking from context and assumes that the meaning of discourse can be ascertained from the language without any need to refer to the context. Thus it serves the sort of mind-body dualism that this research attempts to move away from. Moreover, the associations with identity and power are not relevant for this research.

According to Biesta (2010a), Dewey uses the concept of communication to underpin his philosophical approach. The idea here is that language is active in generating meaning through the appropriation of common understanding through a particular instantiation of participation (see Chapter 2.3 for an

elaboration of participation). However, in this research and in current society, technology has confuscated the meaning of the term *communication* by linking it to the proliferation of modes of communication such as blogging and email. Communication has come to have a technological focus and this focus features in the fieldwork of this research. In this research, communication has been employed in this mechanistic instantiation. Hence, in this research the term dialogue is used to refer to the speech that is transcribed and coded.

In the first instance, transaction offers a way of dealing with the problem of introducing a translation theory in *in situ* studies to try to ascribe meaning to dialogue (Ohman and Ostman, 2007). Instead of divining meaning from the actions that produce the dialogue, the researcher attempts to infer from what the researcher believes the participant is thinking. In other words, the researcher feels competent to translate external observable events into a map of an individual's value system. This approach is engendered by the belief that what is going on inside an individual's mind is separate from and in some way prefigures what is expressed in actions.

In the transactional approach, language is active in creating and recreating meanings by being relational. Language is relational in the sense that it creates a relationship between the people engaged in producing it. Language is also relational in that it does not have meaning as an entity separate from the encounter in which it emerges. Its meaning is related to the context, which produced it. In other words, its meaning is held in the encounter in which it is generated. An encounter as used here is taken to involve an action as well as the actors and their surroundings (Ohman and Ostman, 2007; Ostman and Ohman, 2010; Quennerstedt *et al*. 2011).

For example, it is *in the act of teaching* that the teacher/pupil roles garner meaning and the nature of learning is revealed. Interestingly, the fact that explanations are best understood when accompanied by an example, is indicative of the truth that meaning is held in contexts.

The significance of this approach for this research is revealed in the choice of methods to investigate the research question as well as the research question itself. In terms of the research question, the hypothesis (based on previous research and theory) that participation in eco clubs contributes to the

development of action-competence-associated attributes is underpinned by a commitment to the idea that these attributes only acquire meaning in action; in this instance the kind of actions involved in eco club membership. The idea of teaching critical thinking skills (for example) by disassociating them from authentic experiences divorces them from any meaningfulness. Their assimilation and development is impeded by their lack of meaning. Thus, to be able to understand anything about them, we have to observe them in action.

It is difficult to not to separate internal and external processes in the manner suggested by Ohman and Ostman and other authors such as Gough and Stables (2012); the disassociation of mind and body is entrenched in daily encounters with the world. However, the principles underpinning this research necessitate the treatment of mind as embodied both by the body and the environment in which the body finds itself.

The assumption in this research is that the way to understand the research question is to generate knowledge in the action itself; to understand what is taking place in eco clubs that contributes to the development of action-competence-associated attributes, is to participate in what is happening. Thus, data is generated through the process of embodied contextualisation in the phenomenon; this process enables the researcher to move towards achieving participatory consciousness, which may then inform the data analysis phase of the research.

Furthermore, the data have been analysed here such that they do not conflict with these principles as no assumptions about the impact on the individuals have been made. Importantly, this does not preclude the ability to use data from encounters to ascertain meaning. It is possible to interpret a child's *what if?* questions as critical thinking; particularly when you are present in the situation in which this datum emerges, as this confers a participant's perspective on the data (or 'insider' knowledge). The interpretation of these *what if?* questions as critical thinking does not assume anything about what these questions might mean to the individual separate from the context. Their existence is interpreted as evidence that the context affords opportunities for their elicitation. This leads to

an understanding of how participation in eco clubs contributes to the development of action-competence-associated attributes.

Put differently, the research does not assume the ability to say anything about individual impacts on the child that is observed to exhibit critical thinking. The underlying assumption is that using critical thinking in the club entails the potential for development in the moment and at a different time. This potential is held in the assumption that the experience of thinking critically in the forum of the eco club, may be re-actualised in a different context. The eco club has thus afforded the opportunity for the child to have an experience that may be re-actualised in a different context. This re-actualisation may entail development of the attribute. As such the eco club affords opportunities for developing action-competence-associated attributes. The question is designed to ascertain whether and in what ways the eco club affords these opportunities.

The choice of methods used to investigate the question of how participation in eco clubs contributes to children's developing action-competence-associated attributes, is thus determined by the transactional approach and the associated epistemology of participatory consciousness. To be able to appropriate an understanding of the processes involved in the development of the attributes, it was necessary to observe the processes *in action*. As explained in full, below, the initial plan was to use observation to achieve an understanding of the processes involved; the idea was that this would mitigate the impact of researcher reactivity. However, the ethical dimension of the onto-epistemic frame of this research precluded the use of observation. Participant observation was consistent with the onto-epistemic frame. Participation in the actions with the children in the clubs elicited meaning for the research, and precipitated the development of shared meaning. Observation enabled the identification of meaning for the purposes of knowledge generation.

Participant observation is compatible with the practical epistemological approach to data analysis (Ohman and Ostman, 2007, Ostman and Ohman, 2010) that draws on Dewey's transactional approach to methodology. A premise of this approach is an understanding of an individual's environment as the function of the individual and the space and time they inhabit. That is to say, the environment in which a person functions is not just the space and time in which they exist. More, the environment is what emerges *as a result* of an individual's

existence in this space and time. Environment is the outcome of the interactions between individual and context. Hence, environment is a relational concept. Context here refers to the elements present in the surroundings and undertakings of the individual, including other people with whom the individual may be interacting. The methods used in this research are discussed in greater depth in Chapter 6.

The concept of transaction also emphasises the significance of reflexivity in research. Although I tried to design a concrete research strategy that included mapping a clear route through the data collection and analysis phases, I was unsuccessful in this endeavour. It was not until I had the data in front of me and was immersed in it that the route through it became evident. This eventuality is consistent with a transactional methodology and participatory consciousness. It is only in the state of immersion, in the act of acting, that an understanding of the process could possibly have been attained. Of course, once assimilated this understanding can be applied to other situations to enable the prefiguring of analytical methods to be achieved. Hence participatory consciousness does not imply that no knowledge can be prefigured, it merely implies that knowledge is always subject to the experience in which it emerges.

Despite the difficulties associated with planning in a transactional approach to methodology, Maxwell's Interactive Model of Research Design (Maxwell, 1996; p. 5) proved a very useful starting point. Maxwell separates his hourglass model into two triangles. He describes the top triangle as the external aspect of the research design while the bottom triangle makes up the internal aspect of the research design. Maxwell's model is reproduced in Appendix 2, p. 351. Figure 3.7a shows the developments made to it to represent the methodology of this research. Figure 3e exemplifies the general model of methodology with specific examples from this research.

The purpose of the model is to illustrate the most important components of research design but particularly to emphasise the way that each component influences other components of the design. It is this interactivity between different components that Maxwell contends determines the need to design-in flexibility and dynamism based on an iterative process moving between different

components. Taking this approach to research design has implications for the resultant methodology. Most notably, and aligned with a transactional methodology, it becomes difficult to have a determinate plan for data collection and analysis. Other implications will emerge throughout this chapter on methodology.

Figure 3d below is adapted from Maxwell's model and represents the active elements of the research methodology. I have developed it to take account of the fact that methodology applies to the project in its entirety while research design is generally something developed before a project begins; hence I have included data and findings in the internal triangle. Furthermore, for my purposes Maxwell's model does not pay adequate attention to the ethics of research projects. I have also moved validity to a position where its influence on all five dimensions can be conveyed as, this takes account of both the external and an internal dimensions of validity. In Figure 3e I have illustrated the model with elements of my own research.

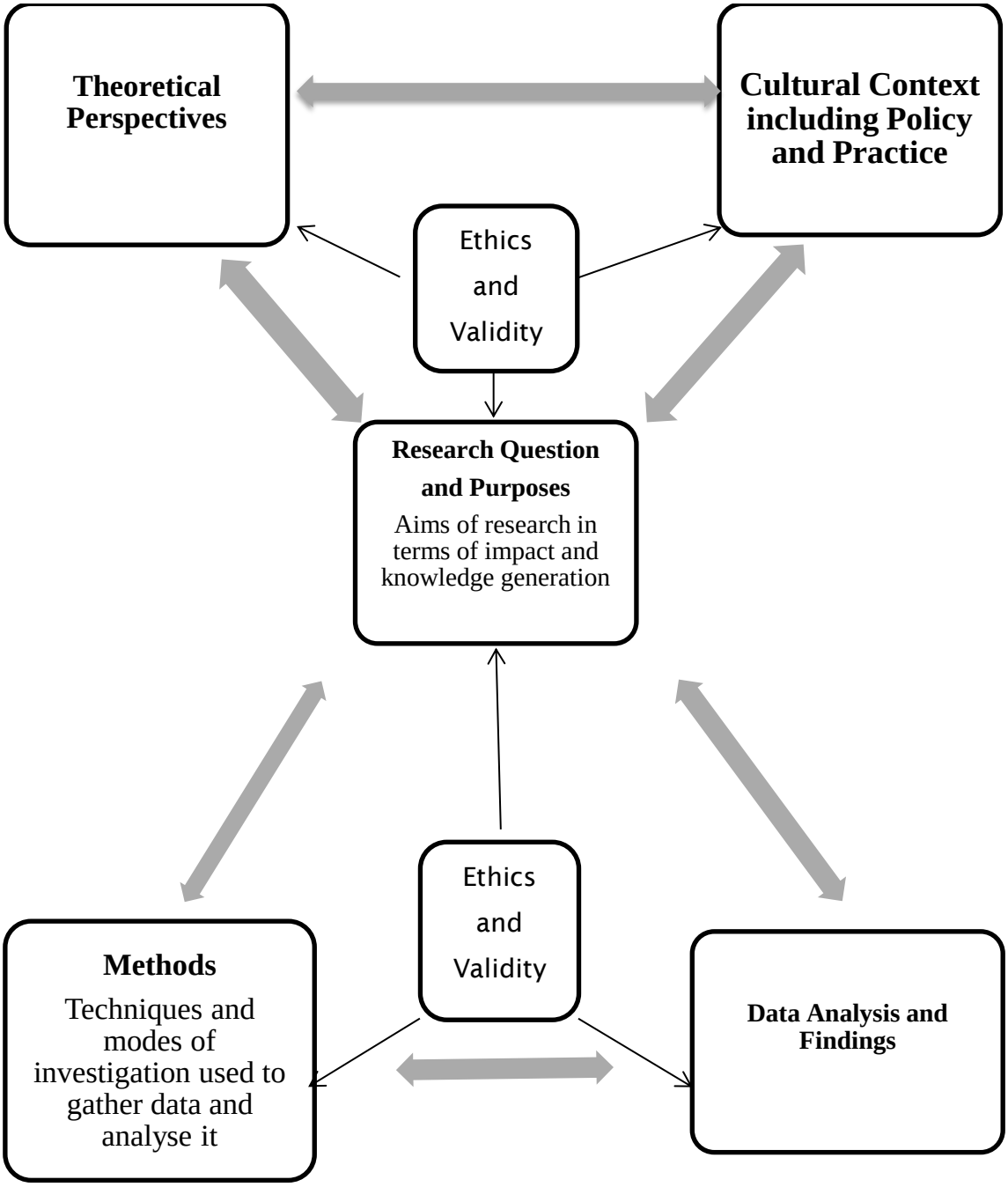


Figure 3.7a - An interactive transactional methodology underpinned by a participatory mode of consciousness

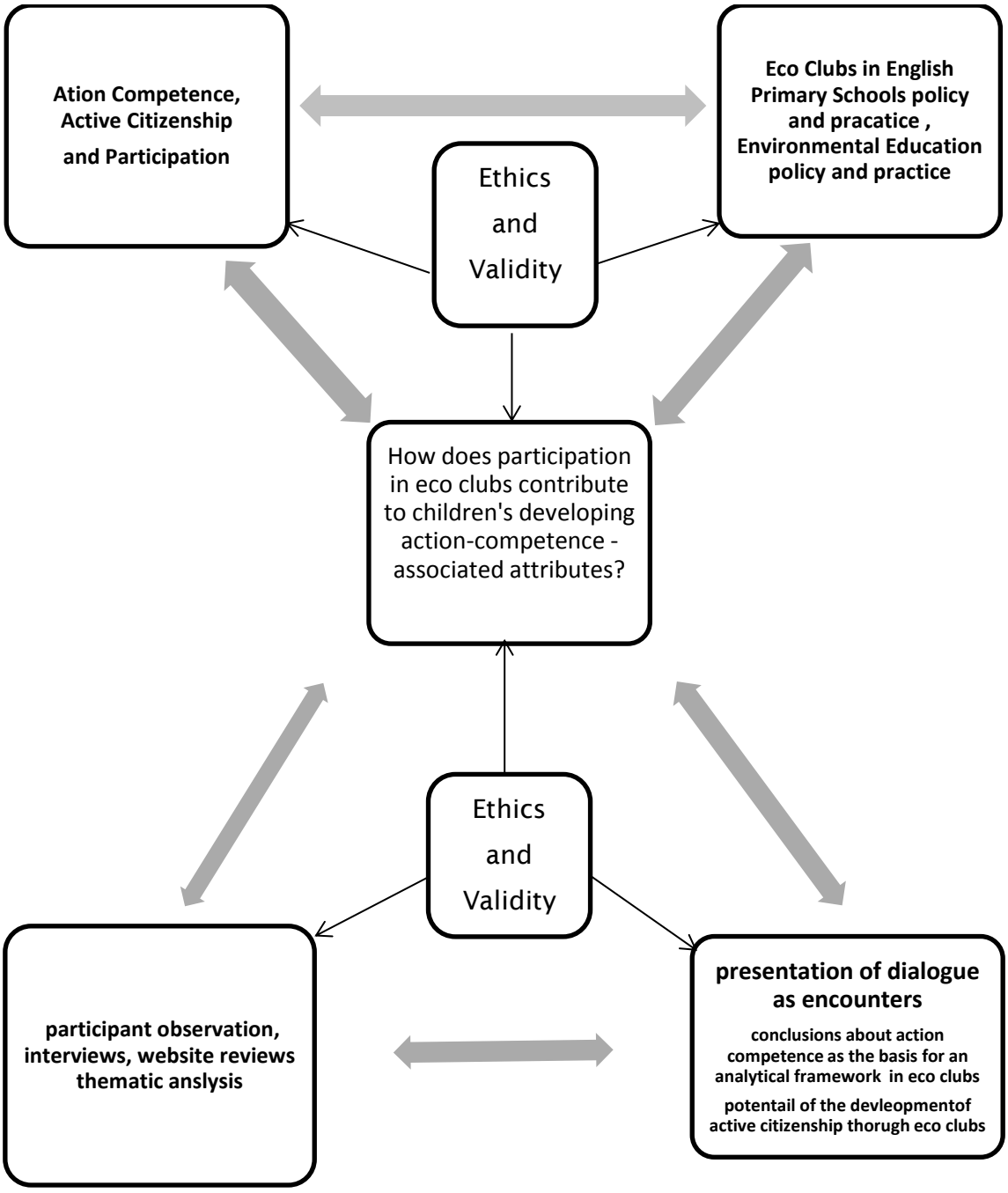


Figure 3.7b - An interactive transactional methodology underpinned by a participatory mode of consciousness with details of this research

An important element of methodology is that all of its different components are consistent. This applies as much to the theoretical perspectives as to the methods employed in collecting and analysing data. The importance of consistency might be suggestive of particular methods rather than others to collect data. However, the importance of triangulation of data sources in social science research should not be discounted on this basis.

Triangulation is the process by which researchers can augment the validity of their data by investigating a question using as many different techniques for collecting data as are necessary to minimise researcher bias. Bias in data can be introduced in various ways; including through the researcher's proclivity for discovering what s/he is predisposed to discover. New knowledge can only be generated by research processes that are designed and operationalized to minimise bias and maximise validity. Data triangulation is a useful way of achieving this (Maxwell, 1996, Silverman, 2010). In terms of consistency, the techniques and methods selected for triangulating data must be concordant with the overall methodology whilst still giving the project added validity by investigating the question from a different position. Thomas (2011, p. 68) describes triangulation as 'almost an essential prerequisite for the case study approach'. This is in line with his position on the case study approach, which is that it enables the researcher to look at the subject of its study from 'all different angles and vantage points'. More so, a multiple case study allows the researcher to look at the question in the context of different cases; in this sense having more than one case might be seen as triangulation. It adds explanatory power by providing insights about a question from in more than one context.

3.8 Case Study

Dillon and Reid (2004) argue that the term 'case study' has lost its clarity in education research by being employed in a multitude of different contexts. I concur with this position. While for some a case study operates at the level of methodology (for example, Lotz-Sisitka and Raven, 2004), for others (for example, Stake, 2000) the case study is the subject of the research. For my

purposes, the term case study does not align well with the term methodology. For me methodology embodies a number of interlocking ideas, as explained previously. If case study is a methodology, it must be associated with an onto-epistemic frame. For example, ethnography as a methodology is associated with an interpretivist, constructivist frame. My understanding derived from the diverse way in which the term is applied is that case study is not consistently associated with an onto-epistemic frame. Moreover, there is no consistency in the case study approach with regard to the methods and techniques associated with it. Corcoran *et al.*'s (2004) review of case studies of sustainability in higher education provide a useful illustration of the problems I have identified here. This seems sufficient justification to reject its status as a methodology for this research.

The usefulness of the concept 'case' is not undermined by this position. In this research, as in a multitude of other studies, the concept is useful because it enables the researcher to refer to the entity (or unit of analysis) which is being researched; be this an individual, a company or a country. The entity has an identity conferred on it by its context. In this sense, the entity and its context are mutually constitutive. This is important because it deals with the criticism that case studies cast the researched world as a collection of bounded cases that bear no relation to each other (Dillon and Reid, 2004). I would argue that it is impossible to set boundaries on something without reference to the context. A border is as much a means of separating entities as it is a means of setting up a relationship between them.

A carefully described case enables the reader to exercise their responsibility of finding commonalities and differences within their own contexts; whether they be experts in the theory or in the practice involved in the research. In this, I concur with Yin's (2009) (and others for example, Thomas, 2011) position on generalisation from case studies.

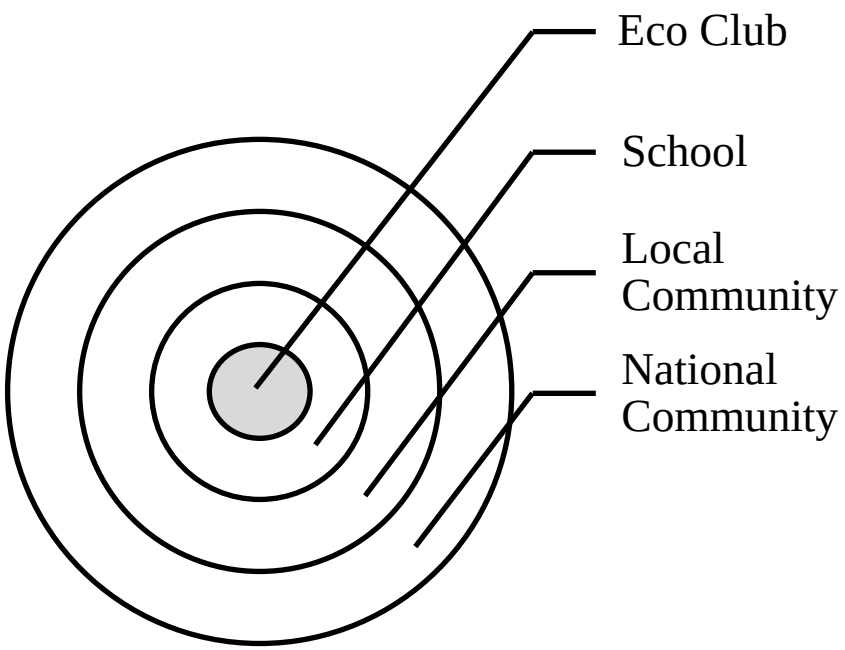
Moreover, the use of the term case here, where two cases were investigated, enables reference to be made to the findings bounded by their specific contexts. The findings from this research would look very different if there were no boundaries set up around the different units of analysis. The data collection would have had to stray into all areas of the lives of the children within the club, in the school and beyond the school. The findings would not be the outcome of

eco club participation in this situation. Even so, such an approach to investigating the children's developing action-competence-associated attributes would have been a kind of boundary as it would have treated individual club members as cases. It is in fact, very difficult to imagine how data collection would proceed if these boundaries were not in place.

A different way of addressing case studies is to talk about the case study approaches instead of case study methodologies or methods. This is how Thomas (2011) talks about case studies. This enables him to draw on the different authors that have contributed different categorisations of cases according to their purposes, types and implementation without misrepresenting their power by linking them to a methodology. I adopt this terminology here. Drawing on Thomas (2011) and Katayama (2009), the purpose of this multiple case study is to use two different contexts to identify and explain how participation in eco clubs contributes to children's developing action-competence-associated attributes.

In terms of Stake's language of intrinsic, instrumental and collective cases (Stake, 2000), this research had elements of all three of these types. The cases had to be described from an intrinsic position but this description was instrumental because it enabled an explanation of the field. The fact that there is more than one case is useful as it provides a broader picture of the same or similar practice in different contexts with different parameters.

Figure 3.8a - An heuristic to represent the case (the eco club) in its institutional context



If the term case study is being used simply to set boundaries around the unit of analysis there is no conflict between it and transaction as a methodology. Consistency between methodology and methods employed to gather and analyse data remains important.

What emerges from the myriad of possible data collection methods as concordant with all aspects of this research is participant observation. Participant observation was used as the principle method to gather data during all of the fieldwork phases of the research. Participant observation enables the researcher to ascertain meaning through immersion in the data as it is generated. Paul Hart writes: 'there is no other way to understand the significance of children's participation than total immersion for extended periods with teachers and their student in their worlds' (Hart, P. 2000, p. 17).

Similarly, learning is about being able to take both an inquiring perspective and a participating perspective (Hart 2008b). As described previously, EE is about learning through participation. Participatory consciousness can only be achieved through action embedded it the subject of the research (Heshusius, 1994). However, the participatory phase of learning does need to be preceded and/or followed by a reflective phase where the learner observes and analyses their own learning to assimilate it effectively. Participant observation allows for both of these phases to occur.

3.8.1 Participant Observation

Participant observation is aligned with a retrospective, reflexive understanding of onto-epistemic framing. It is necessary to participate in the phenomenon being researched, to be able to immerse oneself in the process of researching, to be able to step back from the process and understand its framing. In this, participant observation is cognate with a transactional methodology where the meaning of the dialogue can be understood through *in situ* observation of its production in action.

Participant observation lies at one end of a scale of observation as a method for *in situ* data gathering. In classroom studies using pure observation the researcher's aim is to note what is taking place in sessions without having any influence on the sessions. This might be done through note taking, event or time sampling (Fawcett, 2009), recording (video or audio) or through the writing of field notes after the session.

Participant observation varies from observation because it involves the researcher actively in the sessions that are being studied. There are various levels of participation from full participation where the researcher is fully engaged in the sessions to observant participation where the researcher engages in the sessions but maintains a keen level of observation, to participatory observation where the researcher maintains some distance from the sessions, participating where necessary but focusing attention on the task of observing and recording what is taking place.

Before proceeding with an explanation of participant observation as used in the case studies undertaken in this research, a description of alternative data collection methods is appropriate. This will facilitate an understanding of the reasons underpinning the choice of methods in this research.

3.8.2 Interviews

It might have been possible to gather data through interview to ascertain whether and understand the way in which participation in eco clubs contributes to the children's developing action-competence-associated attributes. This would have

been consistent with the research ethics of treating children as experts in their own experience. Interviews as a method of generating data are treated differently by different kinds of social science researchers. Researchers in the positivist tradition attest to being able to use interviews to collect objective data. They do not take account of the influence of the context of the interview (e.g. power differentials, role of the interviewee, setting of the interview) as having an impact on the data that is gathered. They maintain that it is possible to manufacture a setting where the encounter in which the interview takes place has no significant impact on the outcome of the interview. The data generated during the interview can be treated as an unmediated representation of reality. A positivist notion of reality is that it is something that exists independently of a person's knowledge of it and hence that a person can acquire knowledge about it that is in no way mediated by that person's experiences and context.

A researcher taking an interpretivist position on knowledge treats the data generated during an interview as a subjective product of the interaction between the interviewer and the interviewee. The data are therefore mediated by the encounter and can only ever be representative of the time, place and interaction in which they were generated. Maxwell describes interviews as completely beholden to the concept of reactivity (Maxwell, 1996). Reactivity is the term used to describe the impact of the researcher on the data generated in an investigation. In general, avoiding reactivity is encouraged because valid data should be representative of the phenomenon under investigation rather than the research participant's response to the presence of the researcher. However, in the case of interviews in the qualitative tradition it is not possible or desirable to do so. It is, however, essential to be aware of the influence you are having and to account for this.

For interpretivist researchers the production of generalisable knowledge is problematic (Dunne, *et al.*, 2005) and this is particularly so for knowledge generated during interview; however, interviews are a useful technique for (amongst other things) checking the validity of data. As Miller and Glassner put it, interviews provide 'access to the meanings that people attribute to their experiences and social worlds' (Miller and Glassner, 2004, p. 126). This dovetails neatly with what Carr and Kemmis describe as the purpose of educational

research mentioned above (to enable the description of how individuals interpret their actions and the situations in which they act' (p. 79, Carr and Kemiss, 1983)).

If treated as contextual and contingent, interviews can lead the researcher to valuable findings useful beyond the context of the encounter itself. It is, of course, possible to standardise certain aspects of interviews such as the location of the interview, the identity of the interviewer and the questions asked. This approach helps to mediate some of the effects of context and makes the internal validity of the data from different cases stronger.

The idea that meaning emerges in action (as in a transactional approach) is useful for an understanding of the validity of data gathered during interview. As such, in the interviews my participation (in the sense of co-constructing meaning through the process of dialogue and arriving at participatory consciousness), enabled me to appropriate meaning for the interviewee in the context of the situation in which the dialogue was generated. The data gathered is thus valid as long as it is understood in these terms.

I was able to use interviews to triangulate my data adding greater validity and strength to my findings. The benefits that emerged from this approach are discussed in Chapter 12. Interviews were a rich source of data for the case descriptions (See Chapter 5). I also used interviews to explore the potential for the question in the preliminary phase and to check my preliminary findings with the participants. However, interviews on their own would not have produced valid data to respond to the research question as they beholden to their context and do not provide a naturalistic understanding of what is happening in children's everyday lives.

My commitment to the principles underlying participant observation as a research approach are commensurate with my interest the action competence approach, which is about developing cognate attributes through action that is authentic and directed. Learning is an outcome of *participating* in the process of addressing challenges that are meaningful to the learner. This resonates with the principles of participant observation where researching a phenomenon is about investigating how it plays out as it happens in *authentic* encounters rather than

seeking a third person perspective on the phenomenon by doing desk based research such as questionnaires or surveys. Seeking a first person perspective through participating in the phenomenon itself and observing others as they participate enables the collection of authentic data that generate findings with real world significance.

Other issues that must be accounted for are an outcome of my previous career as a Biology teacher in secondary schools in the England. The importance of this is that it influences my behaviour when engaging with a group of children in the context of a school. My immediate reaction in a classroom full of children is to take on the role of the teacher and take charge of the situation in terms of ensuring order and direction and encouraging learning. It is difficult for me to step out of this role completely when in a school as a researcher.

Data gathered under these conditions are often skewed by the power differential between teacher and pupil. The pupil defers to the teacher's authority rather than expressing his or her own will and direction (reference?). Hence the data lacks internal validity. On the other hand, it is also possible that the exercise of authority by the teacher facilitates honesty on the part of the pupil. Thus my experience of teaching may in some ways have augmented the internal validity of the data gathered in this research.

Nonetheless, I was also wary of the conflict that my identity as an ex-teacher might create for the actual teacher in charge of the groups where I wanted to collect my data. It is possible that the teacher would modify their plans for the group based on my actions and authority. This would in turn, have tampered with the internal validity of the data that I gathered. The plan was to investigate the phenomenon as it happened in the group, avoiding undue 'reactivity' as far as possible. It turned out that avoiding reactivity completely was impossible but I account for this in my analysis and discuss it in the findings from the project. This outcome is concordant with the literature on the subject. Authors such as Maxwell (1996) and Hammersley and Atkinson (1983) also describe the phenomenon of reactivity as inevitable. However, a researcher in the subjectivist tradition, can structure research to embrace it to strengthen the data that is generated during the process.

Hence, reactivity had practical implications for the research design. There were two main impacts that I had to account for: the impact on the teacher in charge of the group and the resultant impact on the validity of the data that I gathered. To overcome the conflict that my identity as an ex-classroom teacher might create both for the teacher in charge of the group where I did my research, and hence for the validity of the data that I gathered, I adopted a number of strategies.

One was to do my research in primary schools. There I am not quite so much in my (ex-teacher) comfort zone. I would never feel that I was the expert and so would be far less inclined to attempt influence the direction that an encounter takes.

A second strategy that I had originally intended to adopt was to act as an observer rather than a participant observer. As such I would have had little or no influence on what was taking place in the room beyond what my presence at the back of the room with a clipboard, a couple of tick sheets and a pencil would impose (some would say that this could have been considerable ref?).

However, in my preliminary research I trialled this method and found that the children and teachers were simply baffled by my non-participation. For them I was an expert or at the very least an extra pair of hands and in not participating, I was having a negative impact on the atmosphere in the room. I found children getting upset by my (apparent) lack of enthusiasm for their work. It was clear that the negative impact I was having would be detrimental to the progress of the group. I felt that it would be an unethical approach to take in the context of my research and was at any rate inimical to my personal ethical convictions. I also felt that the researcher impact I was having would invalidate the data I gathered. The impact that I was having on the children was affecting their behaviour in the group by (seemingly) inhibiting their conversations and changing their approach to participating in conversations.

This confirmed my choice of participant observation. Descriptions of participant observation vary according to whether the researcher is involved in structuring the setting or not and whether the setting is natural or artificial (Cohen *et al,*

2007). They suggest how researchers can be located along a continuum from full participants to detached observers, placing participant observation in the centre of the continuum. *Participant observation* itself can also be viewed as a continuum. On one end of this continuum is the participating observer who adopts the role of observer but who participates in activities from time to time and when participation will lead to the minimum disruption. Such a researcher might be more likely to make field notes during the sessions and might use an event sampling approach. On the other end of the continuum is the *observant participant* who adopts the role of participant but remains alert to what is going on in the sessions and keeps a mental, audio or brief written notes of anything that stands but is likely to write field notes after the sessions being investigated have been completed.

In this research, perhaps the best way to describe my role was as *observant participant*. This would be concordant with the transactional methodology and participatory consciousness outlined earlier. By attempting to set aside my preconceptions during the research process, I was able to participate in the activities of the clubs in a manner that was concordant with the ethical dimensions of this research. By being observant about this process of participation I was able to reveal the knowledge that I gained during the phases of participation.

3.8.3 Sampling

The sampling phase of this research, that is, the identification of schools, was influenced by the preliminary research phase.

Table 3.8.2a summarizes the main features of this preliminary phase and sets it in context of the whole research process. The phase had four aims. Each of these aims was informed by my understanding of practice from my ex-practitioner perspective.

Table 3.8.2a – the aims of the preliminary research and how they were achieved

Aim	**Methods of investigation**
Aim 1: to explore the potential for applying the theoretical	• Website reviews of local schools

framework in the context of eco clubs in primary schools in England.	• Email communications with local practitioners in the field of EE in the NGO and charity sector • Visits to local schools with eco clubs to observe how they function • Interviews with teachers and/or headteachers in the schools that I visited to test the relevance of the question to the practitioners in schools
Aim 2: to investigate the practicability of the research question and, if necessary, modify it to suit the context of the research.	• Interviews with children and teachers involved with the groups to explore the potential of the methods • Visits to local schools' eco clubs to observe meetings
Aim 3: to trial and develop some of the potential methods identified from the literature and my methodological stance.	• Website reviews of local schools with eco clubs • Interviews with teachers, school leaders and children in the preliminary schools • Observations of green/eco group activity in schools • Email communications with local practitioners in the field of EE in the NGO and charity sector
Aim 4: to develop an understanding of what constituted an eco club and thus to inform the sampling process in this research	• Informed by all of the methods used for Aims 1-3

I started out with a purposive approach to sampling, I designed a method that would allow me to identify two or three schools that were fairly similar in their approaches to a number of relevant aspects as my findings would be strengthened if they were similar. However, what I ended up with was one case that met my criteria and one that did not. The reasons for this are manifold. The

outcome was that I had to change my strategy so that I now had two different but representative cases, which I would compare on the basis of a number of differences

In Chapter 6, I outline how the two cases in this research compare in terms of their structure. It is important to set this out as it delineates the context of the findings of this research. An understanding of context is requisite in case studies as they delineate the boundaries, and hence determine the generalizability of the findings. Setting aside the fact that all schools and hence all eco clubs are unique, what emerges from these case descriptions is that there is in fact very little similarity between the clubs. This could be seen as a weakness in the study; it could be that the sampling technique should have identified two similar cases to increase the explanatory power of the findings. However, the range and number of eco clubs in English primary schools is so vast (numbering close to 20 000), that it seems more appropriate to have a greater diversity in the data to make it more applicable to a greater proportion of the potential audience of practitioners.

Moreover, selective sampling of schools with a whole school ethos underpinned by EE/ESD might have been a determinant of the selection criteria. That is the approach taken by much of the literature on EE/ESD in schools in England (e.g. Gayford, 2009; Scott, 2013). In my view, this is not only elitist but also self-defeating.

It is elitist because it suggests that the work done by the majority of schools and children is not worthy of academic attention; suggesting both that it is not valuable but also that it has no influence on the children in terms of their current status and development as citizens. If we take Biesta's position that: '…the most significant forms of civic learning are likely to take place through the processes and practices that make up the everyday lives of children, young people and adults and why the conditions that shape these processes and practices deserve our fullest attention if we really are concerned about the future of democratic citizenship and about the opportunities for democratic learning in school and in society at large.' (Biesta, 2011; p. 152-153) seriously, we are compelled to investigate cases that exist for their intrinsic value rather than their compliance to a set of externally imposed criteria.

It is self-defeating because it confines our knowledge to a very small section of practice that is not representative of the larger population, generating findings that risk being unintelligible to practitioners and not very useful to academics. From a transactional perspective, practitioners are more likely be able to make sense of findings that they have some experience of, findings that initiate a process of re-actualisation of their own experiences. The findings of this research need to resonate for not only the research community working with the theory, but also the community of practitioners working with eco clubs across the country. If this research does resonate for both researchers and practitioners, I will be able to claim to have made a valuable contribution to knowledge in EE/ESD and CE.

Selection criteria that confine the sampling as outlined above are also self-defeating at the level of potential contribution to the aims of EE/ESD. EE/ESD is about both mechanistic and instrumental aims in terms of behaviour change (ESD1) and about learning in terms of developing capacity to think critically through exploring the contradictions inherent in sustainable living (ESD2) (Vare and Scott, 2008). An important aspect of ESD1 is to raise awareness of environmental issues and challenges. This is imminently more achievable through a broadening of the parameters of engagement with research and the generation of findings that resonate with a range of practitioners. If research can demonstrate the benefits of engagement with EE/ESD at a superficial level, it can invite engagement with the more challenging but more impactful dimensions of EE/ESD characterised by ESD2.

So, although these cases are not representative cases in the terms of say, Silverman (2010) or Yin (2009), they are exemplification cases in the terms of Bryman (2012, p.70). They cannot be said to be typical cases because there is so much variation across the elements identified in Chapter 5 so they are not representative of the majority of eco clubs in this country. Moreover, the sheer number of eco clubs makes it difficult (if not impossible) to say what a typical case is. However, they do provide a 'suitable context' in which the research question can be explored.

3.9 Conclusion

In this chapter, I have discussed the meaning of the term methodology casting it as an exploration of the way in which knowledge is underpinned by epistemological assumptions and as a determinant of appropriate modes and techniques of investigation. A discussion of the definition of Education as a discipline prefigured a brief exploration of the philosophical underpinnings of research in EE. This general discussion set the scene for locating this research in terms of its philosophical assumptions, its methodology and its actualisation in modes and techniques of investigation. Ethics were situated in the epistemology underpinning this research and issues of validity and reliability were also identified. A model for the methodology of this research, based on Maxwell's interactive model of research strategy was presented (Maxwell, 1996).

Chapter 4

Do ethics matter?

In Chapter 3 I outline my approach to ethics in research, situating ethics as a dimension of the onto-epistemic framing of this research. As such the ethical dimension emerges as an element of all aspects of research from the more commonly identified data collection techniques to the validity of the findings of the research. This is manifested throughout this thesis wherever pertinent. However, to emphasise the importance this research places on research ethics the disparate strands are drawn together in this chapter.

The chapter is separated into four sections corresponding to the parts of the thesis. The ethical implications for each part are identified and explained. The thread that draws all of these parts of the research together is the intertwining of the transactional approach to methodology with the treatment of children as both current and future citizens, as both *beings* and *becomings* (Uprichard, 2008). The intertwining of these two strands manifests itself in the ethics of this research. Abstracting the influence this relationship has on the different aspects of the research is complicated. The complication arises from the argument made earlier that separating ethics from epistemology creates a situation with the potential to produce knowledge that is invalid. From this perspective validity is compromised because ethics are conceived of separately from epistemology rather than integral to it. However, to be able to understand how ethics are integral to this research it is necessary to delineate how ethics emerge in the different parts of the research.

The chapter starts with a discussion of the association between a transactional approach and the treatment of children as citizens. A transactional methodology entails relational action in the search for meaning. The knowledge generation process emerges from the relations between participants and researcher (Ohman and Ostman, 2007). The researcher is embedded in the issues under investigation. Thus participation is an essential element of the generation of knowledge in a transaction. Participatory consciousness is a natural corollary of transaction. Heshusius describes an epistemology of participatory consciousness as founded on the notion of kinship. For her, kinship implies ethics. In her

words: 'When one forgets self and becomes embedded in what one wants to understand, there is an affirmative quality of kinship that no longer allows for privileged status. It renders the act of knowing an ethical act.' (Heshusius, 1994; p19). Essentially, by being a part of the issue under investigation, the researcher is themselves a subject of the ethics of the research. As such the researcher's understanding is generated in the context of ethics. By being embedded in the research, the researcher develops knowledge through experiencing the issue under investigation alongside the participants. The ethics are bound up in this experience.

The only way to be able to participate in such a manner is if the researcher perceives the participants as agentive, as influential members of the social interactions in which they function. For children this is particularly important for a number of reasons, some of which have already been discussed. At this juncture, it is necessary to emphasise the fact that children, who have historically been seen as less experienced and hence less capable and thus lacking agency, are particularly vulnerable to being treated as subjects of research rather than agentive participants (Woodhead and Faulkner, 2008; Uprichard, 2008; Kellet, 2010). Hence, researching with children entails careful attention to such matters. Inherent in this attention is the acceptance of the difference between adults and children that influence the relations between them. However, these differences do not preclude congruent engagement with issues. Hence participation together is possible and, I would argue, necessary. Such an approach to children as participants is concordant with an approach to children as both current and future citizens (Mannion and I'Anson, 2004). The acceptance of children as agentive, influencing the social interactions in which they function, inevitably results in the treatment of children as current citizens. It also inevitably results in ethical approaches that are currently accepted in educational research circles to be the only appropriate way to act when working with children.

In my view and in the view of others (Mannion and I'Anson, 2004), adults and children alike develop through their activities. Hence the perception of the status of children as existential as well as developmental (as both beings and becomings) is mirrored by the same perception of status in adults.

In the next section I identify how ethics are implicated in the four dimensions of this research. This discussion is by no means exhaustive but identifies the issues that are pertinent to the findings and analysis of the research and that might be able to contribute to literature in the field.

4.1 Theoretical and Policy/Practice Perspectives

Participation is an aspect of all of the theoretical and policy practice perspectives that inform and influence this research. This is explained in detail in Chapter 1 and Chapter 2. For the purposes of clarity here a brief outline of its role in each of the theoretical perspectives is provided, which is linked to the ethics of researching with children and research more generally.

4.1.1 EE

EE/ESD viewed as learning through participation (Hart, P., 2000) or learning as participation (Vare, 2007) might be seen as contentious in the context of the formal schooling system; the site where the majority of children encounter EE/ESD. However, EE/ESD in eco clubs is distinct because the arena is one in which learning does not follow a curriculum or specific programme of study however, it might be influenced by something like the Eco-Schools programme described in Chapter 1. It does not, therefore, conform to normative conceptualisations of learning that cast teachers in authority and children as passive (or active) recipients of pedagogical interventions. However, the context of school eco clubs is still the formal education system so some of these normative assumptions about roles and learning do apply. Setting aside the complex, challenging and contested nature of the notions involved in this situation, germane to this research is the fact that eco clubs are an arena in which EE/ESD might be cast as participation. The fact is that the children in these clubs learn because as Dewey puts it: 'all are cognizant of the common goal and all are interested in it' and there is then, at the very least, the *potential* for participation 'which modifies the disposition of [all] parties who undertake it' (Dewey cited by Biesta, 2010a. p.174). It is thus reasonable to posit that EE/ESD in eco clubs has the potential to be EE through participation.

While it might still be possible to argue that the participation that takes place in eco clubs is not of the kind that is described as genuine; it certainly is genuinely

that which the children in the club experience. Seen through the eyes of the participants, it is disingenuous to describe their participation as tokenistic. This statement is in line with Hart's (2000, 2008) assertion that disregarding participation that does not fit on the top rung of Roger Hart's 'ladder of participation' risks discounting the learning that takes place.

Thus the theoretical associations between participation and ethics of researching with children are strong. To understand how children develop through participation in EE/ESD it is necessary to approach them as participants who learn through their participation; not as individuals subject to teaching or as recipients of learning. To achieve this it is necessary to have a conceptualisation of their status as both current and future citizens - as current citizens whose participation is influential because it both shapes and is shaped by its actions. An appreciation of their status as current citizens implies an appreciation of their participation as not either token or genuine but as actual; as effective in shaping and being shaped by their context.

4.1.2 United Nations Convention on the Rights of the Child (UNCRC)

A goal of the UNCRC was to institute a change in the way children were treated by empowering them to have a voice in matters that affected their daily lives. In this research that principle forms the background to the development and acceptance of participatory approaches such as those that underpin action competence and the treatment of children as collaborators in research.

The extent to which this convention has been successful and the influence it has had on, for example, child labour are matters of contention. However, it is reasonable to assume a causal link between the ratification of the UNCRC in 1990, and the subsequent proliferation in practice, research and literature on the subject. Amongst others, Conroy and Harcourt (2009) and Harcourt and Sargeant (2011) identify this link.

This research is situated in that arena; taking as its starting point a commitment to the ethics of children as participants whose participation in the events in their daily lives influences society both now and in the future. The research investigates how this participation contributes to their development; accepting

that this development may or may not arise from the intentional directions of the authorities with whom they interact. Regarding them as active in their own development, this research accepts that all that can be achieved is an evaluation for the potential to develop action-competence-associated attributes. The children who participate in these events will modify and assimilate these opportunities according to, amongst other things, their prior and future experiences.

However, the research does not investigate a question raised by the children. Moreover, although it does consult the children about the research, it does not necessarily prefer the children's interpretations over those of the adults or the theoretical framework. This could be considered contradictory to these positions. This is a significant point because, although children may be the experts in their own lives and, as children may be more competent at interpreting their own actions (adults by their very status as adults may simply not understand children's actions (Harcourt and Sargeant, 2011)) it does not necessarily follow that only children would be able to identify matters of interest (involving children) for research. Research (and particularly doctoral research) usually investigates questions that are arrived at via the (adult) researcher's trajectory through theory and practice; through experience and re-actualisation of that experience. In investigating these questions the researcher who wants to have valid data, data that represents the verity expressed by the children, must treat the views expressed by the child participants as meaningful.

4.2.3 Action Competence

Action competence is based on the premise that learning occurs through participation in authentic contexts. This premise correlates action competence with the idea of children as influential in matters pertaining to their own lives. Action competence aims to empower children to be willing and able to contribute to current and future environmental challenges. The literature on action competence research was used to develop the data analysis framework (See Appendix 1, p. 345). The fact that the framework does not assume what actually happens inside the heads of the children is cognate with the treatment of children as the shapers of their own destiny.

The way that the data analysis framework is shaped is described in Chapter 8 and is an outcome of the contexts of the club. In other words, the framework has a theory-led and a data-led element. The theory-led element is concrete but the data-led element is variable so the framework is flexible to account for the different data that it is applied to.

Hence, the analytical framework might be justified as ethical because it is founded on research (about action competence) that takes as its starting point children's potential for authentic influence and their subsequent empowerment. The way in which this framework is applied also accords with the ethics underpinning this research. It is responsive to the children's actual and potential influence on their own development through their participation.

4.2.4 Citizenship Education

An understanding of children as both citizens of today and the future has its roots in participatory theory. The essential point is that, in understanding children as determinants of their own development an understanding of children's participation as that 'which modifies the disposition of [all] parties who undertake it' (Dewey, 1916; p.12) is requisite. This is the understanding that through participation in eco club activity all participants are engaged in developing relational meaning (i.e. meaning that is interactively generated between individuals) and thus the understanding of all participants is affected. Such a position is founded on the inherent understanding that the children who participate in the clubs bring with them a plethora of prior experience and attributes. As current citizens children already have identities and opinions. A child is not a blank slate, which can be written in with a desirable set of attributes to enable her/him to participate in society at some point in the future. Children are already members of society, actively shaping and being shaped by their participation in it. This is cognate with a transactional methodology described in Chapter 3 and also concords with Biesta's (2012) conceptualisation of citizenship through subjectification explained in Chapter 2.

The treatment of children as both current and future citizens as the ethical starting point for the engagement with child participants in this research

influences the position taken on citizenship education and active citizenship. The research adheres to the characterisation of citizenship as subjectification, not socialisation (See Chapter 2.3 for details) (Beista, 2012). In brief, this means that children's engagement with environmental issues in eco clubs is characterised as democratic activity. Through their participation they have the potential to influence both other club members and members of the community beyond the club. Citizenship (or civic learning) through subjectification is the learning that happens through participation that ignites or maintains the desire for further participation. The development of attributes is thus not predetermined; it is the natural result of this participation. Like Biesta (2011) I am of the opinion that to understand children's development as citizens we must seek to understand what is taking place in the everyday lives of children. In fact, the way that the school enables (or not) its pupils to engage with the environment of the school grounds is an important and daily experience of how democracy functions, hence attention to this in research in general is of paramount importance (Mannion, 2005; Biesta, 2012).

In seeking to understand what takes place in the arena of the eco club (an aspect of the lives of children), this research takes seriously the experiences of children, seeking to understand their potential for developing action-competence-associated attributes whilst assuming that this potential will be subject to the individual circumstances of the children's everyday lives.

In the next section I address how the methodology, based on a transactional approach, adheres to the principle of children as acknowledged research participants (Conroy and Harcourt, 2009).

4.2 Methodology

4.2.1 Informed consent

Conroy and Harcourt advocate approaching children in research collaborators (Conroy and Harcourt, 2009) who assent to participate in research. Not only should the research collaborators have a full understanding of what the research is about (i.e. be *informed*), they should also have had a hand in setting the agenda for that research. Barratt Hacking and colleagues' (Barratt Hacking *et al.,* 2007) research project entitled 'Listening to Children: Environmental Perspectives

and the School Curriculum' (L2C) took a similar approach to 'researching collaboratively with children' and found many benefits from this approach including increased engagement with school and improvements to the local community. Mannion and I'Anson (2004) investigated (*inter alia*) how professionals' work practices were influenced by participatory approaches to engaging young children. In this research, they engaged children as collaborators at various levels of the project, including the aims and interview design and dissemination. Their findings suggest that a participatory approach is influential for practitioners in that it casts them as 'partial becomings' (p. 316) in the same way as children are understood to be.

The idea of treating children as researcher collaborators is cognate with the theoretical perspectives underpinning this research. Most obviously, the 'child as research collaborator' approach is cognate with a participatory approach, and since participation is the cornerstone of both action competence and active citizenship, it is linked to both perspectives.

Inspired by these strong interrelations, I set out to engage the children in the research methodology as far as possible. Such an approach would enable the achievement of informed consent, considered a priority of the BERA (2011) guidelines to which this research adheres. It would also ensure that the research itself conformed to the principles aspired to by practice informed by participation. Unlike the situations described in the research above, it was difficult to enable potential participants to influence the aims of the research. The research question was informed by theory and practice and was determined prior to the fieldwork phase. The research strategy including the selection of an appropriate case study methodology and the sampling procedures would have been undermined by the involvement of children in the selection of a research question. I felt that I could sufficiently explain the research to the potential participants to enable them to understand it. Moreover, providing participants with the opportunity to suggest how the question might be investigated would facilitate the process of informational process. Hence, the research strategy included a space for participants to contribute ideas about how to investigate the research question. The success of this aspect of the research strategy is addressed in Chapter 10.

Informed consent has been the subject of recent research with children. For example, Dockett *et al*. (2012) working with children aged 4-12 (similar to the participants in this research) describe the process of getting informed consent from children. In Australia where this research takes place the term assent is used because it is not legally binding in the same way that getting informed consent from the parents of child participants is. For Conroy and Harcourt (2009) assent is about positioning young people as acknowledged research participants.

In this research seeking consent was an integral part of the research strategy as suggested by Conroy and Harcourt (2009). The same approach was not applied in both cases although the same forms for were used (See Appendix 3, p. 352). This decision was made because the method used for the older children in Case 1 would not be appropriate for the very young members of Case 2. This made the research vulnerable to criticism on the grounds of replicability. However, the need to be sensitive to context and to revise the approach to match the profile of the club, overrules these objections. The ethical requirements for the children to understand what they are participating in were considered a greater threat to the validity of the data. The need to be sensitive to context is consistent with the transactional methodology of this research. The research proceeds on the basis that methods for generating meaning are contextually dependent. The participants will only be able to understand the research if their circumstances influence the generation of an explanation. The relevance of the research to the children is contingent on their involvement in the generation of meaning about it.

4.2.2 Participant Observation

As noted, the transactional methodology underpinning this research necessitated the adoption of the participant observation method. Taking a transactional approach requires the researcher to adopt the position that meaning is relational and generated through interactions. As explained elsewhere, this has implications for both interviews and observations (See Chapter 3). It also implies that the researcher accepts that meaning is not something that can be imposed on the research. It is something that is generated during the research process. In research with children this requires not only that the researcher accepts that participant and researcher have equal (but different) influence on the generation of meaning, but that children and adults are equally influential. Thus this

methodology and the concomitant adoption of participant observation is underscored by the researcher's commitment to the role of research participants in the generation of meaning.

4.2.3 Interviews

The approach to the interviews in this research is explained in Chapter 7. At this point it is pertinent to explain that the transactional methodology of this research treats interviews as a site where meaning is generated through the interactions of the interviewer and the interviewee. The data generated in interviews is thus beholden to the context. However, this does not mean that it does not have external validity. The data generated during interview is externally verifiable as long as the context of the interview is delineated and the findings are set within that context.

In this research the children were given the opportunity to verify and refute some of the interim findings of the research through interview. This is a demonstration of the researcher's commitment to the principle that children are experts in their own activities. An understanding of the opportunities afforded by the eco clubs for children to develop action-competence-associated attributes was only valid if the children could recognise these opportunities. Hence, to be able to answer the research question it was necessary to consult the children in the research. This was done in formal interviews and in informal conversations during the observation period.

4.2.4 Videos

An example of what Guillemin and Gillam (2004) have termed 'ethics in practice' (i.e. the ethical issues that arise during the process of collecting data) that I had to deal with in this research resulted from the use of video during some focus group interviews. I described this event here as it highlights a number of significant features of the ethical approach in this research.

The plan for this research included some video recording of the club activities. The intention was to use the video in group interviews with the children to stimulate some discussion about what sorts of action-competence-associated

attributes were being developed. The first group that I interviewed watched a short clip. The clip featured the children being interviewed; the children watching the clip were in the clip. One girl (Simone) was immediately apprehensive. Her apprehension very quickly turned to distress, evidenced by the tears in her eyes and her raised voice. I promptly stopped the video and turned to questions. However, it was obvious that I had not considered that some children would be unhappy about watching themselves on video. I had been careful to choose clips that featured the children in the interviews because a number of them had told me that they wanted to see themselves on the videos. But I had not anticipated this response. I immediately changed my plan for the interviews; resorting to asking questions without the video prompt. However, in my reflections on the event I concluded that explaining the purpose of the video recordings had not been sufficient for the children to understand the implications. Perhaps if Simone had anticipated this outcome she would not have signed the form. This signified to me that the procedural ethics (Guillemen and Gillam, 2004), although useful, were not sufficient. And in this case may in fact have led me to overlook some of the implications of what I had been planning to do.

The fact that I responded to the distress caused to the young girl in the video exemplifies the negotiated, transactional nature of this research. For me, the children's well-being was the determining factor in manifesting the research strategy. If I had continued with the strategy I had planned the data would have been compromised by Simone's distress. She would have been unlikely to respond to the questions in the interview and her future participation in the club would have been compromised. Setting aside the fact that I had not anticipated this, the fact that it influenced the research strategy is indicative of integral nature of ethics to the negotiated nature of the methodology manifested in this research.

It should be noted that I spent some time with Simone (after the session and in subsequent sessions) to try to ensure that she did not suffer from this experience. I also gave her access to the camera and audio recordings so that she could do some recording herself.

I would also like to note some of my observations of Simone's character from this point forward (and previous to this incident) which led me to conclude that she had some specific characteristics of her personality that made this reaction likely.

It was clear that she enjoyed the attention of her peers and her teacher, despite the fact that she expressed a wish to work alone. She was prone to crying very easily and often arrived at the sessions in an excited and emotional state. I would describe her as very self-conscious but not very self-aware. These characteristics were particularly pertinent in this situation because it meant that although she liked the idea of appearing on the video she did not understand what she would look like and was thus perhaps surprised by the disparity between what she thought of herself and what she saw on the screen.

This experience was formative for me as it has influenced how I approach the design of research projects. I think now that it is important not only to be sensitive to the responses of the participants in the research but also that, in seeking informed consent, I form some initial impressions of the characters of the participants so that I can evaluate how they may respond to activities such as these.

Moreover, it is possible that other researchers may benefit from knowledge of and sensitivity towards these kinds of characteristics in individuals. A researcher that is able to identify these characteristics is more likely to design a contextually-sensitive method that does not initially compromise the well-being of any of the research participants. To re-iterate, individuals who are compromised by the methods used in the research will not only suffer personally (hence contravening ethical principles of research such as this) but will also provide data that are invalid because the data are produced under contrived circumstances that are not representative of participants' daily experiences of citizenship.

4.3 Analysis

4.3.1 Integrity

In analysing data, being ethical entails integrity. The data analysis process should not distort the data or attribute meaning to it that was not originally intended. The meaning made from the data must be the meaning intended by its production. Data gathered under such circumstances can be used to understand a question so long as the meaning of the data is maintained. In other words,

dialogue generated during a discussion of a controversial issue may be used to develop an understanding of how such activities in eco clubs contribute to children's developing action-competence-associated attributes. The proviso is that the meaning attached to the dialogue does not conflict with the meaning the dialogue had when it was generated.

The participant observer role facilitates the maintenance of integrity. The participant is implicated in the data that were generated, hence the participant has an understanding of the data gained through participatory consciousness. The meaning generated from the data was beholden to the researcher's interpretation. The researcher's interpretation of the data was determined by the participant observer role. The participant observer role was framed by the transactional methodology. Hence the identification of opportunities to develop action competence-associated-attributes was precipitated by the generation of meaning between researcher and participants and by the researcher as participant.

In this research, integrity in analysing the data was achieved through using the exact words spoken by the children and adults in illustrating the themes. The emerging themes were verified by cross checking the ideas that arose during the data analysis process with the field notes and reflections in the research diary. Thus the identification of opportunities for developing action-competence-associated attributes was an integral process that drew on the resources whose purpose was to enable integrity and rigour.

The write-up of the analysis further corroborates the integrity of the findings. It was designed to elucidate the findings, the analysis process itself and the integrity between analysis and findings (and thus the ethical approach of this aspect of the research).

Moreover, in both clubs I spent some time interviewing participants to ask them if they agreed with my initial findings based on my observations. I was concerned to know whether they agreed with me about how eco clubs afforded opportunities to develop action-competence-associated attributes. The way that I did these interviews was contextually dependant. In Case 1 I did individual interviews with participants who volunteered to be interviewed whilst in Case 2 I did group

interviews with volunteering participants. The outcomes of these interviews were generally accordant with my initial findings and so I proceeded on that basis.

4.4 Anonymity

The question of anonymity in educational research has been explored by a number of authors (e.g. Nespor, 2000; Tilley and Woodthorpe, 2011; O'Sullivan, 2013). Each of these authors conclude that, whilst in some cases warranted, anonymity is problematic for a number of reasons. One reason relevant here is that it requires the concealment of information about the context of the eco clubs (i.e. information that might lead to the identification of the school) that would have been useful for developing an understanding of a number of features of the clubs. I will limit this discussion to one point: the assumption that the researcher (adult) should decide for the participants (children) that anonymity is desirable and/or necessary. The children in this research were granted anonymity. However, it was very difficult for me to explain to them why this should be the case. In fact, it appeared to me that they would rather have liked to be identified in the research. They saw themselves as contributing to saving the planet. This is something which they were proud of and so they were rather confused by the idea that they should not reveal their identity.

By overruling their concerns about this issue I was inadvertently compromising both my position on children as agentive (and current citizens) and my methodological approach. By imposing my position on anonymity on them I was setting myself up as an authority who knew better than they did what was good for them. By imposing procedural ethics that were externally determined on the research strategy I compromised the integrity of the methodology. A transactional approach would have allowed for the appropriate decision to be made in the context of the school. It would have been expedient to have anonymity as the default position on the grounds that it was impossible to predict how the research would turn out. The final decision about whether to conceal the name of the school and the individuals in the club could have been left to discretion of the participants. However, in this research I chose to conform with institutional guidelines and guidelines from BERA, using the pseudonyms

that the children chose for themselves in the presentation of the data from this research.

4.5 Findings

This research takes the position that research ethics extend beyond the researcher and participants to the level at which the research is read and applied. At this level the research community is also bound by (implicit) ethics to interpret and apply the research findings in a manner that is consistent with the meaning given to the research by the researcher (Carter and Little, 2007). A researcher that treats knowledge as participatory consciousness is not only more likely to represent the findings in a manner that concords with the participants' position, but is also more likely to be aware of these responsibilities at the abstract, academic level.

It should be noted that the findings of this research will also be presented to the children using the model that I developed from this research to make the findings accessible to them.

4.6 Conclusion

If the question is: Do ethics matter? Then the answer is: only if they are not an inherently implicated in the methodology of the research. In this research, they are. Hence, in this chapter, I have argued that ethics are an integral part of the methodological approach and that this is particularly relevant to research that adheres to an epistemology of participatory consciousness arrived at through a transactional methodology. I have exemplified how this position is manifested in this research by delineating its impact on a number of pertinent areas of this research. I have also identified how procedural ethics can conflict with such an approach by limiting the responsiveness of the practice to context and events.

In the next chapter, I describe the two clubs that formed the cases of this research.

Part 2 Fieldwork

Chapter 5

Case Descriptions

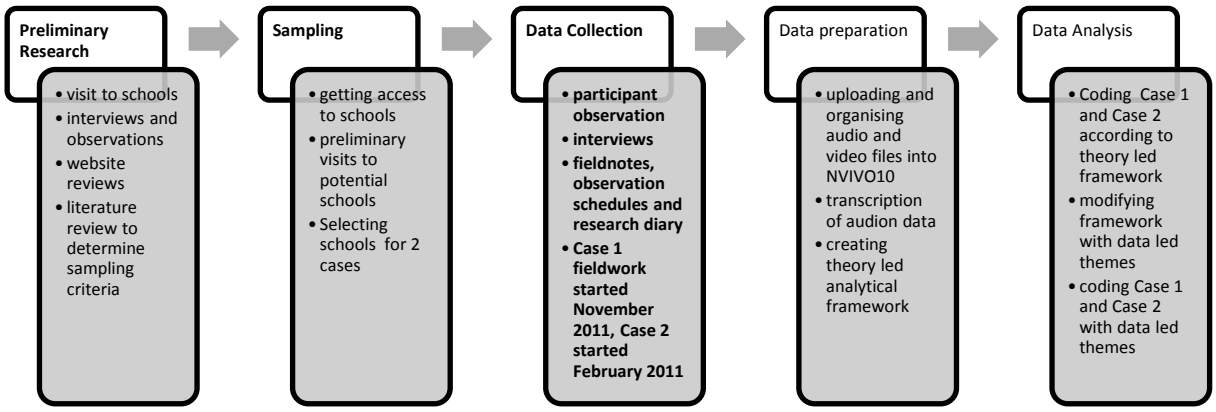


Figure 1: To show the stages of the fieldwork including preliminary research, sampling and data collection phases and the data preparation and data analysis phases. The phase in bold is the subject of the chapter.

In this chapter, I describe the two cases and their contexts investigated in this research. For each I include the following features:

1) Description of the significant aspects of the school

For each case I describe the school context within which the club is situated, using Figure 1.3.1a (p.30) to contextualise the discussion. Therefore I detail some of the top-down and bottom-up influencers at play in the school where this information is available. For each school I address the approaches taken to both EE/ESD and CE. I also provide the reader with a patchwork vignette of my experience of the school outside of the eco club. These are designed to act as portals, opening the doors to the cases and 'welcoming the reader' in.

2) Description of the case (i.e. the eco club)

I use Table 2.5.1.1a to explain the significant aspects of each case. Hence, for each club I describe aspects such as nature of the clubs activity, balance of power within the club, school leadership involvement, parental involvement and other significant elements drawn from the literature. The figure is made up of

descriptors that were identified from the literature on EE/ESD in schools to be influential or were gleaned from the preliminary research to be features of eco clubs.

The data for these (thick) descriptions come from the following sources:

- School website reviews
- Visits to the school including preliminary visits to get access to the group and the regular visits to observe the group (for each visit I made both audio and written field notes and for most I noted reflections in my research diary)
- Interviews with the headteacher, the teacher in charge of the group and interested and involved parents
- Interviews and informal conversations with the group members (i.e. the child participants)

The Chapter is organised as follows:

- 5.2.4 Head Teacher Interview
- 5.2.5 The Club

Case 1: Oldpath School Eco Club

5.1 Case 1

5.1.1 The School

This is a community primary school with around 430 pupils of mixed gender. The school has existed in its current form since September 2005 when the current headteacher took on the leadership of the school. The school was formed by joining together an infant and junior school that were situated on the site that Oldpath now occupies. There are nineteen full time teachers and forty-nine support staff including learning support, lunchtime supervisors and grounds staff.

The school is larger than average for its phase and has single age classes in all years. It has a lower than average mix of ethnicities and a lower than average percentage of children with English as a second language. The number of children on free school meals is below the national average. It is oversubscribed and has an intake which is influenced by the proximity of the local hospital. The impact of this is that a relatively large proportion of the children's families include a medical professional.

Its latest Ofsted report rated the school as good with many outstanding features which include the care, guidance and support received by its pupils. The excellent attendance levels of pupils is cited by Ofsted as reflecting their desire to be at school (Ofsted, 2011 please note: the title for this report has been altered to maintain the anonymity of the school).

The Ofsted report states that the 'vast majority of parents and carers are supportive and agree that their children enjoy school'. Interview data gathered during the research also suggested a high level of parental input and support at the school. This was corroborated by my impressions gained from attending the school over a period of eight months. The time of day that I was at the school (after school activity time) coincided with the time of day that parents were more

likely to be around. In all that time I did not encounter a single incident of a parent who appeared to be experiencing discomfort as a result of being at the school. My impressions of this aspect of life at this school were strongly reinforced by the time I spent at the school fete. This annual event takes place on a Saturday afternoon in June and is very well attended by school community members and local community members alike. My role at the fete was to support Oldpath eco club's stall, to help them sell the products they had made but also to observe the reaction to the stall of both the children and their parents. I was granted permission by the teacher in charge of the club and the headteacher to talk to the people who attended the fete about their impressions of the club. I was also able to get an idea of how well respected the school is in the local community. A description of my impressions of this event follows. The purpose of this description is to exemplify and illustrate some of the points I have made about the school and how it is perceived by the local community.

On this day I arrived at 2pm (the time the event was due to start) to find the fete in full swing. The lack of parking spaces in the local area was suggestive of a busy event; the sounds of talking and laughter could be heard a considerable distance from the school gates. I walked through the school to the eco club's stall. I passed children and adults relaxed in the warm sunshine; wandering from stall to stall, buying the goods on offer, paying the reasonable prices for coconut shies or simply enjoying the experience of being surrounded by friends and family in familiar surroundings. I joined the busy and large eco club stall and was put to work selling the very popular grass heads made by the children to raise money for their Minibeast City project. During the two hours that the stalls were open we had a constant flow of customers (both children and adults). We sold out of grass heads of all varieties (including those whose eyes and noses were missing). We also sold out of the jam and pickles provided by an eco club member's grandmother. We were left with small number of (decidedly wilted) plants (which I duly paid for and took away) and some of the second hand items for the 'jumble bumble' sale. The stall raised £152.33 to support the Minibeast City project and other eco club activities.

During this time I had the opportunity to briefly interview parents of club members and other local community members. This opportunistic sample of

parents revealed much about how the club is perceived by its members' parents; thus providing an interesting perspective about how group is viewed by outsiders (in this case, outsiders with a stake in the group via their familial connection). This data informs the description of the group that follows in this chapter. Other impressions from these brief unrecorded, unstructured conversations corroborated the impressions I had about the regard that the school garners from the local community.

Since the majority of the time that I spent in the school took place after lessons had finished, the description of the school that I provide here is based on impressions from observations of this time of the day. This is not the common perspective of the school stakeholder, so it should be noted as it has a bearing on the formulation of the description of the background of Case 1. To 'welcome the reader' into this school and to conjure up its particularities, I describe a sequence of events and encounters that was typical of my arrival at the school and my journey to the eco club space. Although this is fictional in that it is not an account of what happened on one particular day, it is factual in that it is a patchwork of the moments that stand out from the twenty or so times that I took this walk from school gates to classroom. It is informed by the notes made in my research diary during the fieldwork phase. The vignette is designed to act like a portal to the case, to provide the reader with a sense of what the researcher is familiar with.

Box 5.1a - A patchwork vignette of my school experience - Case 1

3.10 pm - I arrive at the modest but reassuring wrought iron gates of the school. I depress the buzzer. After a brief wait I am greeted from the intercom by a faceless voice. I announce my name and state my business ('Elsa to visit eco club'). I am buzzed in and as I walk through the gate I hear the voice of a familiar young girl calling my name: 'Elsa, Elsa! How are you? See you in eco club?' 'Ah, Hello Snowy! Yes, see you in a minute.' I reply. I am smiling because it is nice to feel known and welcomed. In front of me is the small but full car park. On my left is the large unkempt wild space of trees, the sounds of wellies trampling through mud and shrubs and weeds, the smell of wet earth and squashed leaves; the sounds of happy chattering children. To my right is a classroom with a long line of windows which I pass. I walk along the tarmacked pathway towards the reception building; passing neatly tended raised flower pots and a noticeboard with a slightly faded Eco-Schools bronze award certificate on it. There are parents waiting for children on the pathway who smile at me through their conversations but do not stop talking. I walk to the reception door passing more parents; most of whom are chatting comfortably in pairs or small groups, all of whom acknowledge me with a smile or a nod. On the way to the reception door I pass by a wall painted yellow with a sheet of A4 paper with the printed with the following entreaty 'Mr Cremin needs your help! Please try not to muddy this wall so that he does not have to clean it'. I open the door. The room smells clean and fresh and is bright and welcoming. The reception desk is on my left. There are a couple of parents with their children discussing reply slips for a trip for Year 3. The receptionist greets me brightly but leaves me to sign myself in and collect a visitor's pass. As I am early, I sit down on the chairs in the waiting area across from the reception desk and have a look at the notice boards surrounding me. My eyes are drawn to anything with an environmental or citizenship focus so I notice the newspaper clippings about the school's attempt to cycle to China. They did this by collating all the miles cycled by children and their parents over the two week period that the school hosted some Chinese teachers. I have a brief chat with a parent who is waiting to see the headteacher. I explain what I am doing and she talks about how important she thinks it is that children learn about environmental issues. I make a mental note to record this chance encounter in my research diary.

3.20pm: Time to go… I nod to the receptionist and make my way towards the classroom, where eco club are meeting. To get there I walk outside into the humid, dull day, passing the outdoor seating areas which are occupied by parents and children chatting lazily or sitting quietly, comfortable in their surroundings. The level of noise is starting to rise as more and more children are released from their lessons and meet with their parents to go home or go off with their friends to start their afternoon activities. I get another look at the Conservation Area with its plaque that thanks the local community for their effort in

planting trees in the area in 2005. I enter the upper school building by entering the number on the keypad provided to me on another visit by a teacher. As I open the door I am confronted by a large display of creative writing pieces from Year 5 children. This is a biography board whose subject is the headteacher. There is a large photo of him in the centre of the display. He has clearly provided these children with an open and candid description of his life which has inspired the pieces. I have time so I read a couple of the pieces, mentally noting information that will help me when I interview him on a different occasion. I continue down the corridor, under my feet smooth, cold grey-green linoleum tiles; my eyes are drawn to a new display of ceramic jugs in red clay in a variety of childish forms, elegant in their clumsiness. I also pass eco club's notice board which is clearly a work-in-progress; the previous year's eco code is still up but has been moved to one side and the title for the new display (Solar Power!) is in place; I remember that I have been watching this display develop for three months and I wonder when it will be completed. I turn left down some steps to the classroom. The smells of a classroom warmed by the excitement and exertions of busy children lubricate the air. It is nearly time for the formal school day to end. I can hear the sounds of books shuffling and chairs scraping across the floor and teachers appealing for tidiness and quiet. I am joined by a number of children who, like me are waiting for eco club to start. We greet each other but wait quietly. To pass the time I read the display of raindrops opposite me, whose purpose is to raise awareness of how to conserve water. I can recite some of these from memory now as I have stood here reading them every Tuesday for the past three months. I also note the sign above the light switch and remember Miss Nolen telling me the children who made them had misheard her when she said Kilowatts, writing 'Turn off Lights, Every Killer Watt Counts' instead; a Freudian slip? The door opens. A rush of warm air and children pour out into the corridor and up the steps. I ready myself for the noisy, earnest, excitable encounters that are about to unfold. It is time for eco club to begin.

Although the majority of the time that I spent at the school took place at this time of day after lessons had finished, I did also spend a half day in lessons. The purpose of this was to observe the practice of an environmental NGO worker at the school but also to get some idea of what it is like for children in lessons during the normal school day. This was informative in that it helped me to corroborate some of the impressions I had gathered regarding approaches to participation and school voice. It also gave me an opportunity to talk to a different teacher about EE at the school.

5.1.2 EE at Oldpath

During the school year 2011/2012 EE at Oldpath Primary was addressed in:

- The curriculum
- Green Day
- eco club
- Energy Club
- School Governing Body
- Gardening Club
- The Forest Schools Sessions and the Conservation Area
- Young People's Trust for the Environment (YPTE)
- Parent Group

EE/ESD may have been addressed in other areas of school life but this research did not find any evidence of this.

The Curriculum – The school follows the National Curriculum for England, EE/ESD is addressed as a cross curricular theme. The extent to which each teacher uses the environment to deliver different aspects of the curriculum (for example, maths or science) varies according to the teacher's interests and motivation. For example, the teacher in charge of the eco club brings the environment into her lessons at every opportunity; including using sticks to teach addition and subtraction. A KS1 teacher whose lessons I observed stated that she takes a similar approach to getting the children in her group outdoors whenever she has the opportunity. The YPTE representative who attends classes once a month has an influence on the amount of EE that is undertaken by class teachers.

Green Day – This took place in November 2011 and involved an off timetable day where children helped to make a plastic bottle greenhouse, reusable bags, apple juice, eco banners, seed bombs, apple cooking, and wrote eco poetry. During the

day children from Energy Club and eco club made video recordings and interviewed the children involved in the activities. This is intended to be an annual event.

The Eco Club – the work of this club is the subject of Case 1 and is described in depth below and in the analysis chapters of this thesis.

The Energy Club – This group won the Bath and North East Somerset Local Energy Champion Award in 2011. They made significant changes to the way the school uses energy by reducing energy consumption through a number of awareness raising campaigns in the school community. They had a strong influence on the School Governing Body's decision to install solar panels on the school roof.

School Governors' Support – The Governing Body lent its support to the bid to Bath and West Country Energy (BWCE) for the installation of solar panels on the school's roofs. BWCE paid for the installation of the panels and funds their on-going maintenance. The school gets free access to the electricity that the panels produce.

The Gardening Club – The group meet weekly at lunch time. A Teaching Assistant and teacher at the school run the club. They grow vegetables.

The Forest School Sessions – these are essentially lessons that take place outdoors. They run weekly for children in Year 2 and Year 4. They have been taking place since 2005 on a dedicated area of the school site known as the Conservation Area that has indigenous trees, shrubs and herbs as well as a wildlife pond. The headteacher is highly supportive of learning outside the classroom and helped to get this up and running. It is managed by a parent who has been trained in the Forest Schools approach. A group of parents, children and local community members planted the trees.

Young People's Trust for the Environment (YPTE) – this environmental charity got involved with the school in March 2012. Glenda, a YPTE employee attends the school as part of a three year programme of support that the school has been granted by the charity. The YPTE pays Glenda one day a month to spend time with children at the school in the outdoors. Her remit from the YPTE is to affect the children's perception of the outdoors. The headteacher supports this and

wants her to encourage the children to treat all of the school's outdoor space as an outdoor classroom. Her project for the coming year is to develop a farm at the school.

Parent Group - the parent group was a self-starting informal group that was recognised and supported by the headteacher. It seemed to have had a considerable influence on the school's EE/ESD agenda. It started at around the same time that the school was set up so had been running for about four years. It had five core members and their goal was to try to support the children to develop an understanding that might then be fed back to the parents. In an informal interview with a member of the group she put it this way: 'my generation or the parents' generation won't change unless they have been told by their children'. For her, EE/ESD served the purpose of changing behaviour and this seemed to underpin the Forest Schools work too although it was not possible to investigate the Forest Schools work at the school in any depth. By the time I started my fieldwork it was evident that the parent group were no longer as active as they had been. This may have been an outcome of the employment of the Tic1[3] and the initiation of the Forest Schools programme and the involvement of the YPTE. The perception of a need for parental pressure appeared to have eased off by the time I joined the school.

5.1.3 Citizenship Education

This is not an explicit part of the curriculum in this school. However, the values evident in the school's Statement of Intent and the Core Principles clearly exhibit the school's commitment to an education that encompasses the aims of the citizenship curriculum. This Statement of Intent and Core Principles have not been included because of the anonymity clauses in this research. The curriculum caters for CE by including a strand entitled 'personal, social and emotional development' for each topic covered during the year. The school uses a system which they refer to as the 5 Rs (See Appendix 4) which teachers are encouraged to develop implicitly in all lessons and explicitly focus on in at least one lesson or

[3] See the table of abbreviations on page ? for an explanation of this term

activity every week. The 5Rs are part of the school's approach called 'My Learning' which feeds into the PSHE strand in the curriculum and is identified by the headteacher as the way in which the school addresses the non-statutory combined citizenship and PSHE framework. Furthermore, assemblies cater for the development of PSHE matters. In the interview with the headteacher about the importance that he (and hence the school) attached to CE he made the following statement:

'it is very important to us. We have something called 'my learning' here (05.52). The children have a 'my learning' folder in KS2 and something that we have REALLY emphasized and we are for is the whole idea about developing learning skills and attitudes.

Interview, Headteacher, Case 1

The headteacher also agreed that extra-curricular activities contribute to the children's CE at Oldpath Primary School. For him extra-curricular activities are particularly good at affording opportunities for developing confidence, self-esteem and camaraderie, amongst other attributes. For him, however, in contrast to the position held by the headteacher in Case2, all extra-curricular activities had equal potential to contribute to the development of the kind of attributes that I have identified as action-competence-associated attributes. He accepted that there were differences in terms of the kinds of attributes that could be developed but he did not make a distinction of the grounds of quality. For him it was more about the way in which the club was managed and supported than its focus. So when asked if he thought Oldpath Eco Club was better than Oldpath Football Club at contributing to the development of citizenship he stated:

'I suppose on the surface yes because in football club there is maybe less opportunity for it to be run, organized, communicated by children but I think if there if your philosophy is the same, if the philosophy is right then you can make any club any activity go along those lines'.

Interview, Headteacher, Case 1

5.1.4 Participation

The school context is supportive of an open and participative approach to learning. There is a child centred approach to learning at the school. Teachers are encouraged/obliged to get input from the children about the content of the curriculum. Children are encouraged to participate in all areas of school life. A *Core Principle* of the school on the website illustrates this: '*We believe in collective ownership and developing leadership throughout the organisation*'.

The whole school approach to participation was clarified for me by the headteacher's description of how the motto 'the time of our lives' was identified. When the school opened at its new site with its new headteacher (Ht1) the first task of the teachers was to use feedback gathered by Ht1 to develop the 'Core Principles' and 'Statement of Intent' for the school. During this process the headteacher identified the notion that many parents, children and teachers wanted 'to try and make it that in years to come people will [...] look back at those primary years as just a great time'. It was clear that the motto had developed in an iterative, participative process that had involved as many pupils, parents and staff as had cared to contribute.

A participatory approach is evident in elements of the school ethos, such as the Core Principles and Statement of Intent. It is developed through the encouragement of children to take a lead in extra-curricular activities and it is an element of the school's curriculum where children are encouraged to participate in curriculum design.

This research does not attempt to determine to what extent these principles pervade the lived experience of the children in the school. It is deemed sufficient to identify that they are in place.

5.1.5 Oldpath School Eco Club

Oldpath Eco Club is an after-school club that meets on a weekly basis for an hour session. During the eight month period observed for this case only one session was cancelled. The club is managed by a Key Stage 2 teacher who was employed two years previously and has created the environmental aspect of her role

through negotiation with the headteacher. I refer to this teacher as Tic1 throughout this thesis. Her influence on the club is highly significant and is described in detail in the analysis chapters of this research.

The club meets in Tic1's classroom and sometimes in the IT suite in the school's library. Two sessions take place out of doors.

Table 5.1.5 a - Overview of the main features of Oldpath Eco Club drawing on Table 2.4.1a and b

Feature	Case 1
1. **Nature of club activity**	Discursive, pressure group, awareness raising
2. **Measure of child involvement in decision making processes/Child leadership**	Children involved in decision making processes at various levels including having the power to choose what activities to undertake, the potential to lead projects and the potential to suggest projects.
3. **School leadership involvement**	Indirect support through support for Forest School's programme, encouraging and supporting environmental charity involvement and support for Tic1. School Governor support for solar panel installation
4. **Prominence in school**	Webpage made available for eco club and regularly updated;
5. **Parental Support and Involvement**	Parent group supported setting up of club but no longer involved with its work
6. **Links to local community**	Some involvement through local NGO; one directional from community to Environment Club
7. **Length of meetings**	1 hour
8. **Regularity of meetings**	Weekly
9. **Timing of meetings**	After School
10. **Procedures for joining group**	Volunteer

11.Age range	KS2; P3-P5 (age 8-11)
12. Number of Members	13-15

'…I realised that we were saving the world and I thought that was cool so…'

Oldpath Eco Club member, Belle, aged 8

'*We have got new people and they are going to help save the world*!'

Oldpath Eco Club member, Maya, aged 7

'*Yeah, it is sort of like sometimes its um in a way a bit annoying but then coz sometimes it is like I really don't want to come but not for that reason because the day has been really terrible but then I really want to save the Universe, I want to save the world so much that I just decide to come.*'

Oldpath Eco Club member, Snowy, aged 8

The above quotes above are taken from interviews and observations of children in Oldpath Eco Club and are included to provide a flavour of how the children viewed the role of the club in terms of its purpose and potential. For these three members, at the very least, Oldpath Eco Club afforded them an opportunity to be able to 'save the world'.

Figure 5.1.5.1a (p.81) outlines the main features of eco clubs in England. I use the descriptors in that figure to describe Oldpath eco club. I repeat the same process for St Teresa's Eco Club. Figure 5.3a at the end of this chapter locates the two clubs on the descriptors to further facilitate comparisons between them.

Descriptor 1: Nature of Club Activity

This club's activity varied considerably but the main focus during the time that I participated in the club was discussion and indirect action. Some practical activities did also take place. The activity log included in Appendix 5 (p. 367) provides an overview of the range of activities that the club took on. The

Minibeast City took up a considerable amount of time at the end of the year but this was mostly about planning and raising money for the project. Although this might be said to be more of a practical project (suggesting that their activity should be located further to the left on the descriptor), the outcome of the work carried out during the observational period was to raise awareness of the project throughout the school and, concomitantly, of environmental issues more generally. This process of awareness raising constitutes indirect action in action competence terms because it has the intended impact of enabling children (in the club and school) to become more familiar with the insects and other wildlife of the local area.

To a greater or lesser extent, club sessions had the following format:

- Introduction (20-30 minutes): discussion of a controversial issue instigated by a short video clip or animation or discussion of plans for the session and term.
- Activity (20-30 minutes): range of small group tasks such as:
    - a six month long project to make a solar panel display
    - a 'Bike It!' campaign to get as many children and their parents as possible to cycle, scoot or walk to school over a two week period
    - do an Eco Assembly to raise awareness of the issues more generally and of the Bike It! Campaign
    - carry out a bug survey of different parts of the school grounds as part of a national campaign to log the numbers of insects England
    - planning various aspects of the Minibeast City project including how to attract bees and butterflies
- Plenary (5-10 minutes): discussion of achievements during the session and plans for future sessions.

This format illustrates the variety of the club's activities but it also shows that every session involved some time spent talking about environmental issues,

either to help with planning or as part of a planned discussion of a controversial issue. Moreover, the fact that so much time was spent on planning, even in the activities that were more practical (such as the Minibeast City project), discussion formed the basis of the club's activities.

Descriptor 2 Measure of child involvement in decision making processes/Child leadership

- Adults set up club & suggest aims & mechanisms; children participate in & influence both the aims and the mechanisms for achieving the aims
- Dialogue & negotiation between child and adult facilitator prominent within the club

In Oldpath Eco Club the children are encouraged to suggest activities and a focus for the club's work. The initial objective of the club was for the children to lead the group, giving them control over the direction that the club took in terms of its undertakings. However, Tic1 found it difficult to achieve this (in Chapter 11, I suggest explanations for the problems that Tic1 had in encouraging the children to take the lead in the club). Consequently, she chose to present a range of options of different activities that the club could take on, allowing the children to choose the activity they preferred. In some instances this involved working in small groups on very different projects (for example in Session 5 there were four different, unrelated projects happening at the same time) whilst in other instances this involved a whole group decision about what project to take on (for example the Minibeast City project was selected from a range of options). The whole project was divided into a number of smaller projects and the club members chose which of these small projects they wanted to be involved with (for example research how to attract bees, or butterflies, or how to construct Buggingham Palace for the insects to live in). Each sub group consisted of between one and five members.

Tic1's determination to give club members experience of leadership is demonstrated by the manner in which she created a leader role for each activity. The club members were then given the opportunity to volunteer for these roles and the eventual leader was selected randomly by drawing names out of a hat.

The outcome is that the balance of power in the club remains with the teacher while the children influence the direction that the club takes whilst being supported and encouraged to lead small initiatives and influence the overall direction through the expression of interest and the selection of particular activities.

Descriptor 3 School Leadership Input

- some indirect input from school leadership team via positive and supportive communications with Tic1
- support for eco club Blog on school webpage
- support from school governing body

Oldpath Eco Club is located on the left hand side of this descriptor where clubs with low levels of input from leadership teams are situated. The headteacher is aware of the club's activities and is supportive of Tic1's work but does not personally engage in the activities by turning up to the sessions. In interview he is supportive of environmental issues within the school and is particular enthusiastic about encouraging outdoor learning at the school. To which end he engages the NGO, YPTE (Young People's Trust for the Environment) representative to help to develop the school's outdoor space. His aim is for the children to view all of the school's outdoor space as an outdoor classroom.

Descriptor 4 Prominence in School

- Eco Blog on school's website homepage
- Prominent Notice Board devoted to eco club
- Posters around the school mentioning eco club and other environmental issues
- Assemblies devoted to eco club business presented by children

If combined with the prominence of Forest Schools in the school, the solar panels installed on the school roof, the school garden and environmental charity

involvement, environmental issues hold a prominent place in this school. This is likely to continue to develop if Tic1s future plans are realised and more initiatives come on line.

Descriptor 5 Parental Involvement

Oldpath Eco Club does not have a parental member who attends meetings or supports the club's activities directly; locating this club on the left hand side of the descriptor. However, there is a parental group who meet on a termly basis with the aim of supporting EE at the school. This group of between five and seven parents was set up before Tic1 was employed at the school. It arose out of the parents' perception of a lack of EE/ESD at the school and their motivation to improve this. The club had their full support. The parental group's undertakings resulted in the forest school programme at the school. The parental group also instigated the application for the solar panels described previously. Hence, despite the fact that there was no parent member in the eco club, there was considerable support for their efforts from this group and the locator for the descriptor can be situated left of centre.

Descriptor 6 Links to Local Community

In this research the local community is that in which the school is located. It includes parents but is not exclusive to it. This school had some involvement with the local community through the parents and local environmental charities that visited the school and helped them to run initiatives like the Bike It campaign. However, this was a unidirectional influence. The children did not engage with the local community or try to influence local environmental matters.

5.2 Case 2

5.2.1 St Teresa's School

This vignette has been written using the school's website and prospectus, its most recent Ofsted report, and information from interviews with the teacher in charge of the eco club and its members, and the headteacher. My own observations from the five months that I spent visiting the school also shape it. It has been verified by the teacher in the group and the headteacher as accurate

and fair. I have focused on the features of the school that are relevant to this research.

This is a voluntary aided Church of England all-through primary school in a town in the South West of England. One building houses the 257 mixed gender pupils that are split into nine mixed age classes. Ofsted rated the school's overall effectiveness as 'satisfactory' and capacity for sustained improvement as 'good' in 2010.

The Christian ethos of the school is strong. It is reinforced in all its official public documents such as the website and the school prospectus. This means that it addresses the moral, social and cultural aspects that are often linked to CE through its spiritual dimension as well as in other areas of the formal and informal curriculum. Values are also addressed in the schools aims and objectives which reflect the Christian ethos of the school.

The school's motto, viewed as central to the school's decision-making processes, reflects the school's commitment to putting the child first. During interview, the headteacher (who has been at the school for three years) explained that, when she joined the school she had a meeting with the staff to discuss the relevance of the motto. The outcome of this meeting was that the school maintained the motto. However it was 're-ignited' through this discussion and was now something that the teachers and school leaders used to enable decision making processes; so in making a decision about a purchase or an activity the question 'how does the route we are going on actually fulfill the'[the motto]'?' would be asked.

The motto has a basis in the Christian ethos, the teaching vocation and the Every Child Matters agenda. In interview, the headteacher explained the basis of the motto as follows:

'every one should be like a little child, so children have um ultimate importance; and as a vocation as teachers, and that we are here to improve the life of children and then it came out of the Every Child Matters agenda so that they then decided that was the motto'.

Head teacher, Case 2

Box 5.2a - A patchwork vignette of my school experience – Case 2

12.15pm: I am walking from the train station to the school in the rain. I am thinking about whether the club will be cancelled today or not and regretting the fact that I did not call ahead to make sure. It stops raining and I close the umbrella. As I do so I look down the road for the tall, sharp, metallic spire of the church that is attached to the school reaching up towards heaven. As I near the school, I listen out for the squealing, chatter and laughter and running feet as children blow off steam during the lunch break. But all is quiet; of course the rain has kept the children indoors today. I walk along the road, passing the playground and the lower school classrooms.

12.20pm: I enter the school gates and head for the door that leads to reception. The front of the school is open and inviting with none of the fences and gates that are sometimes evident in primary schools in England. But the entrance itself is a very small space indeed; here the need for some sense of security is evident. I wait for the parent on her way out to leave, and then I enter. The receptionist recognises me immediately and greets me by name with a friendly smile. 'Hello Elsa, just sign in and I will let you through.' I greet him back and sign my name in the visitor's book and then wait for the buzzer that lets me into the school building. I enter the lobby and am bowled over by the sounds of a busy school on lunch break that have not been able to go outside. It is very loud. Excited voices shouting to each other and running feet being admonished for moving too fast can be heard everywhere. To my left is the waiting area adorned with art and crafts. There is a notice board and my eyes are drawn to the endorsement certificate from Garden Organic; I also notice the values pinned up on signs that remind of the flash cards we used for mental arithmetic when I was at school. Sharing, Caring, Forgiving, Respecting. I tell the receptionist that I will find Tic2 myself and I walk down the corridor to the staff room where I expect her to be. On my way I pass children making their way to lunch under the watchful eyes of the lunch supervising crew. There is a happy, inquisitive atmosphere in the place. I open the door to a room that is comfortable and clean but cluttered with the paraphernalia of a busy school. I see Tic2 is there eating her lunch. She smiles and greets me and I go over to join her. There are other staff in the room including the headteacher, all of whom acknowledge me with a smile or a

greeting. I sit down with Tic2 and exchange notes about how our respective young children are getting along. I am reminded about how our status as first time mums of young children has helped us to bond and build up an easy rapport. At one point, a teacher sitting near us starts to talk about a child who has been absent recently. '*You know how Jenny had a note to say that she was absent with the flu? Well, it turns out that while she was supposed to be at home in bed recovering she was actually out with her mother protesting about the closure of the local park*'. This comment is addressed to no-one in particular but I am interested to hear HT2s response and I look across to see how she reacts. A wry smile is all that suggests that she has heard what has been said. No-one else in the room comments.

12.27pm The discussion between myself and Tic2 resumes. Today I will explain the research to the children in the club to get their input and ask them if they are willing to be involved in it. She explains that this time there will be about half of the group present. We gather our things together and walk to the classroom where the meeting will take place.

5.2.2 EE at St Teresa's School

The significance of EE is evident from the headteacher's letter on the school website's homepage. It is also mentioned in the first page of the school prospectus: 'We have a school garden for growing vegetables and a wild area and have the Bronze Eco Schools award.' It is also clear from being in the building and walking around the grounds that there have been a number of attempts to get recycling and composting going but that these have either failed or are only marginally successful. It would seem that there has been a considerable amount of support for EE at the school for some time. However, none of the previous attempts have been particularly successful. The employment of an NQT (Tic2) who has recently completed a PGCE at an institution with a well-known commitment to EE is significant; particularly since that NQT has been given responsibility for running the school's eco club. The prompt response of the headteacher to my invitation to participate in the research is further evidence of her support for this strand of education.

The school's website lists their Eco Schools Bronze Award on the page entitled 'Our Achievements'. At interview, the headteacher explained that when she arrived she set up an eco club.

Religion and EE: The headteacher makes a very strong case for the links between EE and the Christian ethos at the school. In her words:

> 'it would be my philosophy that we are totally interconnceted and the children need to learn from an early age that they… that their spiritual wellbeing depends on their relationship with the whole of creation and, therefore, the environment and that we find spiritual refreshment through that.'
>
> Headteacher, Case 2

For this headteacher, the links between the environment and religion are not so much about stewardship but about the interconnectedness of people and creation. Although she is new to the school and freely admits that her philosophy in this regard is not necessarily that of the school, this is the approach she takes in her lessons and so it is an approach that will the children will be exposed to.

The Curriculum: The environment is addressed through the curriculum in subjects such as science (e.g. in KS2 children to a topic called 'A Mountain Environment) and geography (e.g. in KS1 the children do a topic entitled 'Our Local Park'). It is also addressed in PSHE (e.g. Fairtrade) which is taught by the headteacher.

The Gardening Group – this group is co-ordinated by the headteacher and is funded by a grant from Garden Organic (a charity whose purpose is to develop skills and commitment for growing food organically amongst both adults and children in England). The group involves between 5 and 5 KS2 children and, at the time of the data collection phase of this research was led by a Year 5 boy. The produce of this club will be sold at the farmer's market through [Local Town] Eco Enterprise.

Parental involvement: During the data collection phase there was one parent (called the parent facilitator) who worked hard to get involved with the eco club.

This parent runs an EE business for children. She described her motivations as follows in interview:

'I am um more sort of get children outdoors and reconnect with nature, you know, that is how I drive everythig that I do, it is more improtant to get them outdooors; showing them that there are more sort of options; you can do fun stuff outside and I think especially when they get a bit of ownership as well, it is not just helping out with a chore and it is somthing they will develop into later life coz I started when I was really young with my grandparents allotment so it was just sort of part of my growing up and it shoud be an option for all children to have that and obviously school is a really good environment to do that because not everyone has got the facilities at home, or the time.'

Parent Facilitator, Case 2

She arranged a trip to the local allotments but this was cancelled. She attended two of the meetings of the club to help get the herb garden going. Since the end of the research she has taken over the running of the club which has moved to an after school slot. In interview, she had the following comments to make:

'it's nice for [my son] to have something that he does in school as well and if I am saying this is how everyone should live and all the recycling and gardening and things and then if he is not doing it at school and then if it is not discussed then obviosuly my argument is a bit flawed; and so I think it is great that we have set up this initiative and he is completely on board with it. You know he comes home when it has been cancelled he is quite upset, so I can say that you know the the difference and it is a fairly big group of children that he works with as well and I think it settles him down a bit.'

Parent Facilitator, Case 2

Eco Day – this took place on a Saturday and the aim was to get an area of the school grounds cleared for an allotment. Parents were invited to come in to help but there were only three parent volunteers. The outcome was that they discovered a badger set so the allotment had to be postponed. This Eco Day was organised by the Parent Facilitator described above.

Local Eco Enterprise: The parent facilitator is involved with a group of twenty-one schools (including the school in this case study) in the town that are working together to produce vegetables to be sold at Farmer's Market in the local town. The project has been funded by the Wiltshire Council Area Board and is planned to be an annual event.

Eco Club: This club has existed at the school for three years in different forms. It was set up by the headteacher when she started at the school. It was 'about suggestions about how we could develop the school so they did a lot of work working with the admin staff on recycling and [...] paper use. And we also looked at where we were wasting wasting energy' (Head Teacher, St Teresa's Primary School).

Tic2 (a newly qualified teacher in her first year of teaching in a part time post) took on the club as part of her contract at the school. The club at the time of data collection is described below.

Young People's Trust for the Environment: the charity was invited to come into the school to discuss the outdoor space with the children to enhance their awareness of the school grounds as are resource for learning about the environment.

Outdoor Space and wildlife – The school has a very well developed outdoor area with a pond and an outdoor classroom area. This is not currently in use and it proved difficult to ascertain what happened to it. The children are very aware of it and keen to use it but during the data collection phase this was not being supported. The school is the site of a badger set which disrupted plans for an allotment in the school grounds.

5.2.3 Citizenship Education at St Teresa's School

At this school CE is tied up with the school's commitment to a faith based ethos; particularly the Christian faith.

In describing this school's approach to CE I draw on the interview I did with the school's headteacher as well as my observations of the allusions to CE around the school buildings.

In this regard, the signposting of the faith inspired values of sharing, caring, respecting and forgiving are given prominence around the building and were emphasised by the headteacher during interview. In particular the concept of redemption 'is at the heart of the Christian faith and so it must be at the heart of our school so that it is […]the child we never give up on; The child always gets a second chance; […] we can change a child's life.'

Moreover, Ht2 said that the spiritual development of the child 'is fundamentally important'. To illustrate this point, she described a project called Twinkling Stars. In her words 'we all learn what makes us glow like a twinkling star, what makes us shine. So, it is things like, sitting outside and watching the clouds, makes you feel great; as well as getting your maths right, makes you feel great; as well as caring for another child, makes you feel great. As one child described it, its like at christmas where actually you glow more when someone opens your present than when you open your own.' She adds that 'when we glow we spread that glow to others'.

In terms of CE, this project enables the school to meet a number of the targets delineated in the non-statutory framework for CE (see Appendix 6, p. 371). For example, in the category of *developing good relationships and respecting the differences between people: to recognise how their behaviour affects other people* and in *preparing to play an active role as citizens* to *reflect on spiritual, moral, social, and cultural issues, using imagination to understand other people's experiences*.

When asked directly about CE at the school the headteacher had the following comment to make: 'we have looked at it much more as about being part of an active community. So it is about being an active member of a community. So we have looked at it like being part of the 'Children's Parliament' and the children have done a big project on road safety; working with other schools and Wiltshire college they have made a road safety DVD which was for adults to drive more safely. And, um and looking at litter. So it has mainly been parking, recycling, litter and working within the community but then we have also um looked at being a public nuisance and had the police in talking about um we had a lot of vandalism in the school. It wasn't our children but it was about how, as you grow

older there are socially unacceptable ways to act.' In the ensuing discussion, she described how the local mayor had visited the school to give the children an opportunity to discuss how they felt their town could be improved. The local MP had also been in to visit the school. For her, CE is 'about understanding local democracy as well.' She also discussed the need for attention to diversity and talked about how the school deals with the diversity in its population.

'It is vital that we teach children the values of how to live and that is what [CE] is, and how to live in a community. That is part of being a school.'

5.2.4 Participation

'I try to teach both subjects [Religious Education and PSHE] in a way that children voice their opinions and undrstand and listen to views. It is very participatory.'

'it is about having a voice that is heard and learning to use your voice and learning that if you have a voice that isn't always heard you need to try a diffeent thing. I think it is so important that it goes alongside, that if you have a voice you don't need to do the unsociable behaviour so they they go together'

Interview, Headteacher, Case 2

The quotes above taken from the interview with the headteacher demonstrate the significance that she attaches to giving children opportunities to develop their participatory activity in terms of child voice. For her, the eco club was an ideal place for this development to take place. The parent facilitator had a similar approach to participation and participatory practice.

In the school more broadly the children's School Council is described as a means of enacting the school's commitment to involving the children in the way the school is run. The children help to interview teachers and some children are involved with the town's Children's Parliament.

The issue of participation at Case 2 influences the analysis of the data and is discussed in greater depth in Chapter 12.

5.2.5 St Teresa's School Eco Club

Table 5.2.5 b - Overview of the main features of Oldpath Eco Club drawing on Table 2.4.1a and b

Feature	Case 2
1. Nature of club activity	Practical - gardening
2. Measure of child involvement in decision making processes /Child leadership	Low levels of participation in decision making processes; children willing to suggest possible activities but adult facilitator not able or willing to address these
3. School leadership involvement	Indirect support through recognition of environmental issues on headteacher's welcome letter on school webpage and through involvement with and support for environmental issues in curriculum; direct support through dropping into group meetings and discussing progress of activities with children and adult facilitator
4. Prominence in school	Webpage made available for Environment Club but not updated
5. Parental Support and Involvement	One parent facilitator involved in setting up the club and assisting with some meetings
6. Links to local community	Some involvement through parent facilitator; one directional from community to Environment Club
7. Length of meetings	20-30 minutes
8. Regularity of meetings	Weekly (many cancellations)

9.	**Timing of meetings**	Lunch time
10.	**Procedures for joining group**	Elected by tutor groups
11.	**Age range**	KS1 and 2; P1-P5 (age 5-11)

Descriptors

Descriptor 1a - Nature of Club Activity

The activity at Case 2 was confined to a herb gardening project with one exception where the children had the opportunity to spend a session suggesting ideas for the future direction of the club. The herb garden was planned by Tic2 so the children had very little involvement beyond the physical construction of the garden.

Descriptor 2 Measure of child involvement in decision making processes/Child leadership

In Case 2 children had no influence on the direction of the club. Tic2 chose the activities that the children would perform and decided how these would take place. Tic2 gave them the opportunity to make suggestions during one session but did not act on any of these suggestions during the time that the observations took place.

Descriptor 3 School Leadership Input

The headteacher at this school took the time to visit the club whilst the garden was being constructed. The club was originally set up and run by the headteacher. Thus the headteacher was involved with the club and interested in its direction. On the headteacher's letter on the school's website she mentions the environment as an important aspect of what the school does.

Descriptor 4 Prominence in School

Linked to Descriptor 3, St Teresa's eco club had prominence on the school website in the headteacher's letter and by having a page on the website (although this was not updated). The fact that the club ran at lunchtime and worked on the school grounds meant that teachers and children that were not in the club were aware of what it was doing. However, there was no noticeboard advertising its activities and it did not present its activity at assemblies. The environment more broadly featured in the school grounds through the presence of a wildlife area with a pond.

Descriptor 5 Parental Involvement

The parent facilitator who is currently running the club (since after I completed my research there) was involved with setting it up and trying to involve it in local community activity. However, the school has struggled to involve more parents; despite efforts to get parents involved in activities such as setting up a school allotment.

Descriptor 6 Links to Local Community

The efforts of the parent facilitator to get the school to engage with local community environmental activities meant that there was some engagement in an outwards direction. The involvement of a local charity in the school meant that members of the community came into the school to support the club. Hence there were some influences in an inwards direction but these were somewhat truncated by Tic2's choice of activities during the observational period.

5.3 Conclusion

Figure 5.3a and Table 5.3a help to show how the two clubs compare in terms of the common characteristics identified in this chapter and Chapter 3. They suggest that there is quite a range of variation between the two cases. The purpose of this chapter was to use these descriptions to set the stage for the data analysis phase of this research. In so doing it described the contextual factors of

the cases focussing on the school and its approach to CE, EE and participation as well as the way the club functioned at a general level.

In the next chapter, the process of collecting data for these cases is discussed.

Figure 5.3a - Comparing Case 1(C1) and Case 2 (C2) using the descriptors from Chapter 2.5

1. **Nature of club activity**

    a) **Practical**

Adult led ----------C2----------C1----------→Child led

    b) **Discursive**

    Adult led C2----------C1----------→Child led

2. **Measure of Participation/Child leadership**

Adults lead; children involved----------C2---------→ Adults lead; children influence ----------C1----------→ Children Lead; adults support & assist

3. **Head/School Leadership input**

Low ----------C1---------- C2----------→ High

4. **Prominence in School**

Low ---------- C2 -------C1----------→ High

5. **Parental support/Parental involvement**

Low ---------- C2 C1----------→ High

6. **Links to local community**

Weak----------C2 C1----------→Strong

Table 5.3a - Comparing Case 1 and Case 2 in terms of their common characteristics

Feature	Case 1	Case 2
1. Nature of club activity	Discursive/Campaigning	Practical - gardening
2. Measure of Participation/Child leadership	Medium levels of participation – children are consulted and can influence undertakings of club; children invited to come up with ideas; children encouraged to choose activities from a selection of options provided by adult facilitator	Low levels of participation in decision making processes; children willing to suggest possible activities but adult facilitator not able or willing to address these
3. School leadership involvement	Indirect support via adult facilitator and through giving credence and support to environmental issues through supporting outdoor learning across the school and through officially recognising adult facilitator's role in her job description; indirect support through encouragement of environmental issues in curriculum; direct support through assemblies	Indirect support through recognition of environmental issues on headteacher's welcome letter on school webpage and through involvement with and support for environmental issues in curriculum; direct support through dropping into group meetings and discussing progress of activities with children and adult facilitator
4. Prominence in school	Prominence on notice boards; newsletter; Eco Blog on school webpage; assemblies given by eco club	Webpage made available for Environment Club but not updated

5. Parental Support and Involvement	Parents supportive through Parent Eco Group but not directly involved in eco club activities; parents donate items for fundraising; parents speak positively about their children's involvement	One parent facilitator involved in setting up the club and assisting with some meetings
6. Links to local community	Some involvement with local environmental NGOs; one directional from community to eco club	Some involvement through parent helper; one directional from community to Environment Club
7. Length of meetings	1 hour	20-30 minutes
8. Regularity of meetings	Weekly (no cancellations)	Weekly (many cancellations)
9. Timing of meetings	After school	Lunch time
10. Procedures for joining group	Volunteering	Elected by tutor groups
11. Age range	KS2; P3-P5 (Age 7-11)	KS1 and 2; P1-P5 (age 5-11)

Chapter 6

Data Collection

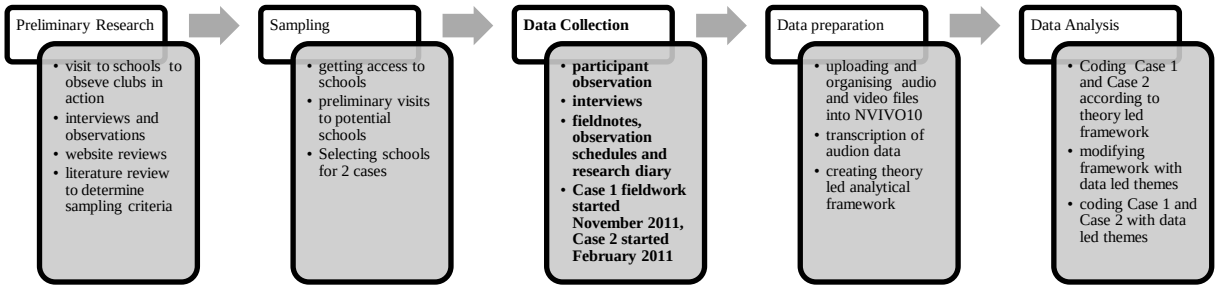


Figure 1: To show the stages of the fieldwork including preliminary research, sampling and data collection phases and the data preparation and data analysis phases. The phase in bold is the subject of the chapter.

6.1 Introduction

The strategy employed to collect data was participant observation of eco club meetings supported by semi-structured interviews. Appendix 5 (p. 367) contains a record of all of the sessions for both clubs alongside the purpose of the session for both club members and the research. It includes the dates of the interviews that were carried out during the data collection phase.

In this chapter I outline how the data collection phase of the fieldwork proceeded. I describe any challenges faced during this phase and explain how these were handled.

In Chapter 3 I argue that a systematic, documented approach to data collection is a necessary element of research that is subjectively framed. There are a number of reasons for this position. Internal validity (or transferability) is particularly relevant for the data collection phase of the research (Silverman, 2009). The internal validity of a research project refers to the way in which the methods employed in the project can be transferred to a different project. In other words, can the methods be replicated by a different researcher in a different context such that the findings of the replications are in line with those identified in the

research. Such a process compels a systematic, documented approach to data collection.

It could be argued that the interactive model of research in a transactional methodology conflicts with the researcher's ability to be systematic. In fact, Heshusius (1994) argues that attempts to manage subjectivity such as this can lead to unethical research, which in turn generates data that do not get at the meaning of the context. The meaning is compromised by the researcher's inability to temporarily suspend their own needs (e.g. the need to answer a specific research question or complete a PhD); the encounter in which the data collection occurs is shaped by the researcher's desires rather than participants' activities. Hence the findings of the research will be impugned by reactivity to the researcher's presence; thus the findings will be invalid.

Such a criticism has credibility; however it does not deny the need for systematically approaching data collection *on these terms* in a transactional methodology. In other words, there remains a need to be reactive to the context of the research; being systematically flexible enables the internal validity of the research. Documenting the impact that this flexibility has on the data collection process enables and determines the transferability of the research to other contexts. Hence this chapter documents how the interactively conceived plan to collect data was actualised. It includes reflections on the agreement between the two cases.

6.2 Data Collection Methods

6.2.1 Participant observations

The role of participant observer was assumed in both clubs. The elements of the data collection process described here were repeated in every session where an observation of a club session took place. A club session refers to a meeting of the group that constituted the club. A general explanation of the way in which participant observation was manifested in this research is explained in Chapter 3. A reflexive analysis of its manifestation is provided in Chapter 5. In this section, I

describe how it emerged in practice and how and why it varied between the two cases.

6.2.1.1 Field notes and observation schedule

Before starting the fieldwork, I set up a folder with a template for my field notes and observation schedule which I developed from literature on observational studies in Education. Very brief features of the meetings such as the number of children present and the purpose of the session and anything that appeared particularly significant were noted in a notebook during the fieldwork phase. These notes were used to support the writing of field notes and the observation schedule. The field notes and observation schedule were usually completed immediately after the session or the following day. Following the majority of sessions, audio notes were made immediately after the session.

It has been suggested that field notes should in fact be made in the field during the data collection event while the observations are on-going. This method was trialled but it was found to interfere with participant observer role and the achievement of a participatory mode of consciousness. It was also evident that it interfered with the participants' engagement. They appeared to be distracted from the club's activities my actions in this regard. Hence the method of making audio notes and very brief written notes to facilitate the subsequent writing up of field notes was preferred.

This approach was successfully and systematically instituted in both cases.

6.2.1.2 Audio recording

The vast majority of the dialogue that occurred during the sessions was audio recorded. I used both a primary and a secondary recorder to capture as much dialogue as possible and to have a back-up if the primary recording was unclear. In some instances some of the dialogue was not recorded. The nature of the activities and the unpredictability of events in the sessions precipitated this. For example, at times children would be out of the room talking to other children or adults who were not in the club and thus had not been informed about their research.

The role of participant observer complicates the researcher's ability to maintain ecological validity. Ecological validity can be disrupted when the researcher influences the natural state and direction of the subject being researched. As described elsewhere (Chapter 5), the decision to take on this role was made on methodological (including ethical) grounds.

Ecological validity is the term used by researchers in the subjectivist tradition to refer to how the research disrupts the trajectory and development of the phenomenon under research (e.g. Cohen *et al.,* 2007). It is noteworthy that the vulnerability to disruption of ecological validity of the two cases in this research varied.

In Case 1 the teacher in charge of the club (Tic1) was more experienced. She was also highly motivated and informed about environmental matters. Thus she was less inclined to seek my support at this level. She had ideas of what to do and knew how to go about achieving them. My impact was confined to supporting her when she needed to leave the room with a small group of children or when she wanted someone to accompany a group of children working elsewhere. Thus my presence in the club enabled her to perhaps take on more tasks than would otherwise have been possible. When she was busy I was also able to help act as another source of support for children who wanted help and that enabled them to achieve the aims of the club.

In contrast in Case 2, the teacher in charge of the club (Tic2) was newly qualified and part time. She also had very little knowledge about environmental matters. However, the fact that she had chosen a very specific approach to the club (i.e. the herb garden activity) meant that, although she sought advice from me about how best to do this, the direction of the club was already determined before I arrived. However, the children in this club were aware of Tic2's lack of expertise and this may have led them to treat me different, seeing me as an expert. This was evident from their preference for asking me (rather than Tic2) about the names of the herbs they were planting. This may have resulted in greater disruption to the ecological validity of the data.

This issue of reactivity is discussed in Chapter 10. Here it should be noted that the evidence for my impact did emerge in the data. However it may be that I did not identify all possible instances where I influenced the data. However, it is unlikely that the impact I had would have been strong enough to have invalidated the findings of the research. Hence, awareness of the impact is deemed to be sufficient and is noted both here, and in the conclusions drawn from the research.

6.2.1.3 Video recordings

In each case, some sessions were video recorded. Initially the plan was to analyse the video recordings similarly to the audio recordings. However this plan was changed when it emerged that some children (despite having initially agreed to be filmed, were not actually comfortable with it. This issue was discussed in Chapter 4 where it is noted that the video recordings were used to facilitate identification of speakers and accuracy of transcription. This was particularly useful in Case 2 where the data collection phase was shorter and disrupted; meaning that it was more difficult for me to identify the speakers just from the sound of their voices.

6.2.2 Semi-structured interviews

The purpose of the interviews is described in detail in Chapter 4. Their purpose was to cross check findings from the observation data with the participants and to provide the background for the club by describing aspects of the school relevant to the research. These aspects included the school's approach to CE and EE. For each case, the following stakeholders were interviewed:

- Headteacher (Ht1 and Ht2)
- Teacher in charge of the club (Tic1 and Tic2)
- Parent facilitators (Pf3)
- Child club members

6.2.2.1 Headteacher

The interviews for the headteachers were semi-structured. The same questions were used in both cases. However, the schedule for the interview was designed to enable the interviewer to respond to the direction given by the interview. In other words, if the interviewee raised a particularly interesting point relevant to the research, the interviewer would follow this up with further unscripted questions and prompts.

In both cases, the interview was carried out by the researcher and took place in the headteacher's office. The location of the interview was chosen by the interviewee but consistency between locations was important as it put the interviewee in control of the situation thus encouraging them to feel comfortable. This facilitated a natural rapport to develop which enabled the generation of data that was consistent across the two cases. As explained in Chapter 3, this research treats interviews as data generating, where the dialogue that emerges is imbued with the meaning constructed in the situation between interviewer and interviewee. As such, the meaning that emerges is subjective. Gubrium and Holstein (2003) refer to this approach as the active interview. The implication is not that the data is invalid because its objectivity cannot be verified, it is just that it is the product of the interaction between the interviewer and the interviewee and the context of the situation. This position accords with the transactional methodology that underpins this research.

6.2.2.2 Teacher in charge of the club

The purpose of the teacher interviews was to clarify their understandings of motivations for involvement with the club, their conceptualisations of the research and the potential they perceived for the development of action-competence-associated attributes through participation in the club. However, the way these purposes were manifested in the interviews with the teachers was determined by the variation between the interviewees, the cases and their contexts. Thus, although the purposes of the interviews were achieved in both cases, the mechanisms for achieving them varied. This raises questions about why the same approach was not taken for the headteachers. The explanation for

this lies in the fact that, as participant observer, much of the information needed to achieve the purposes outlined for the interviews could be gleaned during club sessions and from informal, unscripted conversations. However, it was necessary to verify, clarify and elaborate this information gathered in this way through a more formal interview. Thus the structure and content of the interview were both transactionally determined. The questions asked were determined by the interviewer's knowledge of both the context (i.e. the club and the school) and the interviewee.

6.2.2.3 Parent Facilitator

The interviews carried out with parents involved with the two clubs were subject to circumstance. In Case 1 there was a group of parents that helped to initially encourage and support the setting up of the eco club but who were not directly involved with the club. I tried to set up a meeting with this group but, as it transpired, they were not available to meet with me. I had a number of informal chats with the lead parent of this group. These informed the case description (See Chapter 6). I also spoke to a number of parents who visited the club's stand at the school fete. None of these interviews were audio recorded but the data provided were useful in informing the case description (See Chapter 6).

In Case 2 I was able to have a formal interview with the parent facilitator. The data from her interview were used to inform the case descriptions and data analysis.

6.2.2.4 Child Club Members

The interviews with the children in the clubs also varied according to context. In Case 1, two kinds of interview took place. Early on in the data collection phase (about three months after starting data collection) group interviews lasting twenty minutes with three to four children in each interview were carried out. The purpose of these interviews was to ascertain whether the children could identify any of the action-competence-associated attributes[4] from a video clip that I had made of an activity they had participated in. What emerged from this activity was that, despite the fact that the children had understood that they would be filmed

[4] See Appendix

and had asked to see the video footage, at least one child expressed discomfort with this process. In terms of generating data about action-competence-associated attributes, these interviews were unsuccessful. Nonetheless, the experience was influential in shaping how I used the video footage gathered during the research, as explained previously.

6.2.2.4 Website reviews

The school websites were also important sources of data for this research. The websites gave access to information that informed the case descriptions and the data analysis phases of the research. They were thus useful during the data sampling phase, the data collection phase and the data analysis phase. They were particularly useful because they were accessible at any time during the research; so they were consulted prior, during and after the fieldwork phase of this research.

To review the websites prior to the fieldwork phase I set up an excel file where I recorded data such as contact details, details about the school's eco club and their Eco Schools status, details about the school's approach to participation and any other information that had relevance to action-competence-associated attributes that presented itself. This information was used primarily to get access to the school. During the fieldwork phase I checked the websites regularly for any updates. During the data analysis phase I checked the website for updates and drew on them to write the case descriptions.

It is worth noting (and this issue was explored in Chapter 4) that the use of websites presents a problem for maintaining the anonymity of the schools involved in the research. The ethical protocols for this research determine that the school's identity should not be divulged in any writing about the research. To ensure this, it is necessary to avoid quoting information from websites that might lead to the anonymity of the school being compromised.

6.3 Conclusion

The focus of this chapter on data collection was the explanation of why a systematic approach to data collection could be claimed. What emerges is that,

although the same techniques were employed in both cases the manifestation of those techniques was contextually determined. This may raise some problems in terms of the potential for replication of the research in different contexts. However, in the context of a transactional methodology, this approach is requisite. It is only through responding to the context that meaning can be ascertained. Hence data collection techniques have to be responsive and interactive; relationally determined and actively shaped by the research process. Moreover, the transparency resulting from the reflections on the data collection phase provided here contribute positively to the potential for replicating this research. The replicability of the research is in fact, strengthened by the fact that contextual responsiveness is built into the research strategy.

Two challenges of an ethical nature are also identified here; these were addressed in Chapter 4.

Part 3 Analysis

Chapter 7

Data Preparation and Management

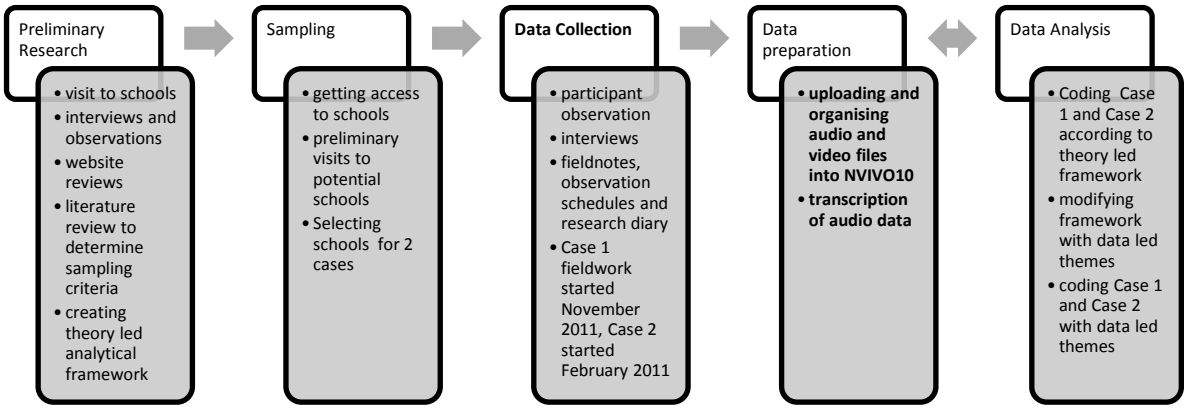


Figure 1: To show the stages of the fieldwork including preliminary research, sampling and data collection phases and the data preparation and data analysis phases. The phase in bold is the subject of the chapter.

7.1 Introduction

The data preparation aspect of this research is delineated separately because it helps to make the link between data collection and data analysis in terms of the processes that took place in this research. It also helps to establish how participatory consciousness can be an element of the data analysis phase. To achieve these aims in this chapter I start by outlining the use of the software package NVIVO in this research. I follow this with a brief description of the process of transcription to show how this enabled me to become immersed in the

data; this immersion I posit as a way of drawing out the participatory consciousness that evolved during my role as participant observer in the fieldwork phase of this research.

7.2 The Use of CAQDAS (Computer Assisted Qualitative Data Analysis Software)

NVIVO is useful for facilitating a rigorous approach to the application of analytical frameworks to data. This helps to strengthen the foundations of the findings developed from the framework because the framework can be applied consistently to all data gathered. These points concur with those made by both Weitzman (2000) and Ozkan (2004) who describe similar benefits to the use of QACDAS to analyse qualitative data.

Problems with the use of software packages to analyse data have been identified by a number of researchers. Katayama (2009) summarises some of these, pointing to those that refer to misunderstanding the capabilities of the package (it does not code the data or supply instructions on how to do this) and the limitations of earlier versions of NVIVO. In this research, these points were not relevant as the researcher was aware of the capabilities of the package from experience with it in other research projects and from attending training sessions. The researcher was also able to use the most up to date version of the package that was better able to handle a variety of different sources of data.

Other authors point to the danger that the package might lead the research approach, so that the researcher analyses the data according to the capacities of the package instead of being led by the research question or purposes (Silverman, 2010) to choose an appropriate method of analysis. In this research, the decision to use the package was made precisely because it would facilitate the method already selected to analyse the data gathered for the research. Hence, the package facilitated the data analysis approach which addressed the research question.

In this research, the use of the Computer Aided Qualitative Data Analysis (CAQDAS) package NVIVO10 enabled the management and thus facilitated the

analysis of the data gathered for this research. The following reasons explain why the software package was able to achieve this:

1. It allowed me to take a systematic, consistent approach to data management and collation so my data could be easily and readily accessed. For example, I was able to make sets of data according to the form they were in (e.g. meetings, interviews), according to the activities that took place in them (e.g. outdoor activities, group work), according to the session which they referred to (e.g. Date of meeting) and so on. This not only facilitated the organisation of the data but also speeded up the process of transcription and storage considerably; hence facilitating the comprehensiveness of the data analysis that could be achieved.

2. It enabled a systematic approach to be taken to data analysis, which not only stored all coding and reflections in one readily accessible, easily retrievable format but also kept an historical log of the changes made to the analytical framework. This facilitated the reflexive element of the thesis.

3. It made coding of the audio files alongside the transcripts possible. This is important as it decreased the distance between the data and the interpretation of the data so that, where helpful, codes refer to the actual speech of the participants rather than the transcriptions of the speech. In all cases, the coding of the transcriptions can be located in the audio files. This means that whenever it was helpful, I could check the codes on the transcriptions against the audio files.

4. NVIVO10 could be used to explore the data as a whole by carrying out matrix coding to analyse the impact of different kinds of activities or events on the development of action-competence-associated attributes. These tables were used to illustrate the findings of the research and consolidate the discussions. In my opinion, these tabular representations greatly enhanced the clarity of the findings of this research. They enabled the research to present a more general description of the data alongside the rich descriptions that were facilitated by the quotes and descriptions of encounters.

5. NVIVO10 could be used to retrieve quotes and search for relevant text to produce the kinds of thick descriptions warranted by this multiple case study. This would have been possible using a Microsoft package or by searching through the data manually. However, the process was greatly facilitated by this function.

6. There was an element of convenience about my decision to use this package. NVIVO is available through the University of Bath, hence the IT technicians at the university are familiar with it and are able to support users; this is not the case for other packages considered for this research. Furthermore, the University of Bath hosts training for this package and peer researchers within the department also use the package; a support network was therefore readily available to me.

In the next section, I describe and explain the data preparation phase of this research and suggest how this furthered the process of developing a sense of participatory consciousness from the research.

7.3 Preparing the data

Preparation of the data gathered during the fieldwork using NVIVO10 involved the following steps:

1. Reviewing, sorting and uploading files from the different sources of data (e.g. field notes, observation schedules, audio notes, video recordings, audio recordings for each session)

2. Listening to and transcribing each audio recording using the observation schedules and field notes as guides to remembering the context of the audio files

3. Labelling the transcriptions with the data in the field notes and observation schedules to support the setting up of encounters

Step 1 was applied to all of the data for both cases over a period of two days when all of the fieldwork had been completed. Steps 2 and 3 took place concurrently for each new session during the transcription of the audio recording.

The same steps were applied to both sets of data. However, it was more difficult for me to identify the speakers in the audio files from Case 2 as the data collection phase was truncated for a number of practical reasons. Hence, for this phase the video files were used to enable the identification of the speakers and to understand how they were arranged in the patch where the herb gardening activity took place.

7.4 Transcription

In choosing to do my own transcription I responded to the concerns raised in the literature about the influence of external transcribers on the research data (Tilley, 2003; Bird, 2005). These concerns arise from an understanding of overlap between transcription and data analysis.

In this research, data transcription involved listening to the audio files, selecting the most useful version in terms of clarity, and then transcribing it to text. The back-up audio files and video recordings were used to facilitate clarity when the recording being transcribed was inaudible. In this way, it was possible to produce a more or less verbatim transcription of the majority of the dialogue that took place during the sessions. The observation schedules and field notes associated with each recording also facilitated the process of achieving verbatim transcriptions.

In transcribing this data, I was both transforming the data from audio to text and interpreting it from the point of view of the theoretical perspectives underpinning this research (Bird, 2005). This approach to data transcription is consistent with my onto-epistemic frame. The correspondence between *my transcriptions* of the dialogue in the context of the events taking place and *the actual events as they happened* at the time is influenced by my interpretive epistemological position. As a pragmatist, the need for consistency between what took place and my description of what took place is set within the context of the research question. In other words, what motivates me to achieve consistency is not the need to achieve it but the way in which consistency supports a valid response to the

question. The reflexivity that is associated with the endeavour to achieve consistency is also undertaken because it facilitates the arrival at verity in the endeavours to respond to the research question.

7.4.1 Encounters

The main purpose of the audio files and field notes was to facilitate the understanding of encounters. Researchers using Practical Epistemological Analysis use the term *encounter* to refer to instances of interactions (Ohman and Ostman, 2007). These interactions have four elements:

- Individuals – the people involved in the interaction e.g. the individual children working together in a group
- place – the surroundings of the interaction e.g. a classroom
- time – the time when the interaction happens e.g. at the end of the club session
- activity – this comprises both the act of doing something and the purpose e.g. talking about growing herbs. It could be subdivided into two interrelated elements (i.e. what is being done and the reason it is being done e.g. talking about growing herbs in order to plan the herb garden

Thus, the term *encounter* is used to refer to a period of activity during a club meeting with specific participants (working alone or together), which can be isolated from a different period based on its focus or the participants' involvement or some other similar factor. For example, a group of children working on a display about solar panels might communicate about how to draw a map of the school. This period of activity would be referred to as an encounter or a child might work independently on a letter to a bee-keeper and this period of activity would be called an encounter. The way in which these encounters were identified was influenced by the researcher's interpretation of their significance in terms of coding action-competence-associated attributes. The text in the transcriptions were chunked accordingly.

This process was by no means simple as in the majority of cases an encounter that afforded opportunities for developing action-competence-associated attributes of one kind might overlap with an encounter that afforded opportunities for developing action-competence-associated attributes of another kind. It should be understood that encounters were therefore not discrete units. The majority of encounters either overlapped with other encounters or were contained within broader encounters. The term encounter, although an outcome of the events taking place in the group, is an analytical tool determined by the researcher's interpretation of the action-competence-associated attributes emerging from it.

The adoption of encounters as an analytical tool allows me to describe the data I have gathered in terms of the dialogue that characterises the interactions, the interactions themselves and the context in which the encounters take place. The dialogue on its own would have missed much of the detail that is a strength of the participant observation method (Dunne, *et al.,* 2005). All of these elements are essential to explaining how participation in eco clubs contributes to the development of action-competence-associated attributes.

The focus on encounters is also in keeping with the case study approach, which advocates the study of 'actions as defined by interactions between people and situations' (Thomas, 2011, p.51). Thus a focus on encounters fits well with the methodology of this research (See Chapter 3) which takes a case study approach to investigating the research question.

7.4.2 Participatory consciousness

Transcription of the audio files was a drawn out process that involved concurrent modification of the analytical framework and preliminary coding. The data analysis process is described in Chapter 10. At this juncture, I would just like to refer to the reasoning underpinning the decision to carry out preliminary coding and modification of the analytical framework during the data preparation phase. During data transcription, it became obvious that listening to the audio files with the level of attention required to transcribe the conversations was eliciting a process of re-actualising the experience of participating in the sessions with the

children. This re-actualisation drew out valuable ideas that, if not recorded, were likely to get lost in the milieu of data analysis processes. The embedding in the data that resulted from the process of transcription was reshaping my experience of being in the sessions with the children. This reshaping was modifying my understanding of what had taken place. The process of embedding myself in the data in their audio format was a kind of participation that developed my understanding of the encounters I had participated in. Thus, the participatory consciousness that emerged from this process had to be recorded if an exhaustive account of my findings was to emerge. If I had attempted to transcribe the data separately from coding it, I would not have been able to utilise this understanding. I would then have had an incomplete conceptualisation of the participatory consciousness developed during my interactions with the participants; both in my role as participant observer and as data analyser.

Researchers have referred to the benefits of transcribing data as supporting closeness between the researcher and the data (Halcomb and Davidson, 2006). The overlaps between data transcription and data analysis have also been made before (Tilley, 2003; Bird, 2005). However, what I describe here is more than that. It is the way in which embedding oneself in the data, in a sense participating in the data through a process of immersion and engagement, enables the emergence of understanding of knowledge that lead to a nuanced and in-depth set of findings from the research.

Figure 1 at the beginning of this chapter is thus not strictly accurate. The two final phases, rather than being separate should be overlapping. The inclusion of the double-headed arrow signifies this overlap as an iterative process; however it could be argued that the level of this iteration is stronger than the figure suggests.

7.5 Conclusion

This brief description of the data preparation and management phase of this research offered in this chapter is elaborated on in other chapters of this research. Its purpose here is as stated in the introduction: to make a link to the way in which the whole research process engages with the idea of participatory

consciousness. The complex dialectical relationship between theoretically informed intentions and pragmatic decision making processes discussed in Chapter 5 is also relevant here. The decision to transcribe and code concurrently was taken during the process itself. The need to be systematic to improve the external validity of the research would suggest a systematic approach to data analysis that proceeded in discrete phases. Overlap between phases might lead to confusion and make it difficult to repeat the process in a different context. However, the use of NVIVO10 helps to alleviate any problems that might arise from this iterative approach. The ease and speed with which it is possible to modify earlier coding decisions overcomes any difficulties that might arise from an iterative approach to decision-making during the data coding process.

Chapter 8

Analysis

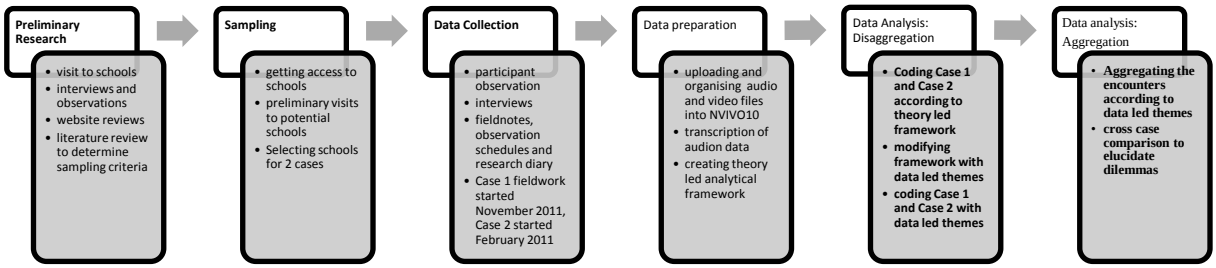


Figure 1: To show the stages of the fieldwork (including preliminary research, sampling and data collection phases) and the data preparation and data analysis phases. Phase in bold is the subject of the chapter.

8.1 Introduction

In this chapter, I describe the method that I used to analyse the data and explain how I arrived at it, including how the method contributes to the overall validity and reliability of this research. I set out the framework that I developed from the literature on action competence and CE (i.e. the theory-led framework) and how the categories derived from the literature were modified according to what emerged from the data. I explain how this framework was applied to the data to disaggregate it and identify where opportunities for the development of action-competence-associated attributes arise. This forms the focus of the chapter. I then briefly explain how I aggregated the data at the themes emerging from data and how these were transformed into findings through synthesis with broader literature. I include a step-by-step guide that I followed to ensure that I maintained a systematic approach across the two cases.

8.2 Selecting an appropriate method

The data gathered in this research served two purposes. Its foremost purpose was to address directly the research question 'How does participation in eco clubs contribute to children's developing action-competence-associated attributes?' by investigating the interactions and encounters in two eco clubs. These data were in the form of observational field notes, audio recordings of group meetings and some interviews. A secondary purpose of the data was to present the context of the school of which each group was a part, in terms of its broader pedagogical approach as well as its approach to EE. Clearly, this second purpose also addresses the research question, but indirectly. The data for this second purpose were mainly in the form of school website reviews and interviews but the findings were also informed by impressions of the school gained from weekly visits to the site, which I recorded in my research diary.

My reading of the relevant literature on methodology and my review of the literature on research similar to mine led me to consider a number of alternative data analysis methods. These alternatives had their own strengths and weaknesses, which I describe below. I made the final decision about which method to use based on the outcomes of trials of the methods I had considered. These trials involved collaborating with peer researchers who were provided with samples of the preliminary data and details of the proposed methods (Yin, 2003). The input that I received from the trials of the methods from this peer group influenced my choice of method for analysing the data and the way that I used the method that I chose. However, in line with Model 1 for the methodology of this research posited in Chapter 3 (p.118), the details of the process and the framework were interactively designed. Changes and modifications occurred in the process of doing the analysis.

One alternative that I considered is called Practical Epistemological Analysis (PEA) (Ohman and Ostman, 2007). I analysed a transcript of a group meeting from my first preliminary school (See Figure 1 for clarification of the phases of this research) using this method. I thought that this would allow me to identify instances where action-competence-associated attributes emerged. I intended to link these instances to the activities and moments in the meeting when they took place. I also got the peer group of researchers mentioned earlier to trial the method with the same transcript. The discussion that followed this trial run led

me to the conclusion that although the philosophy underpinning PEA is significant for my research (see Chapter 3 for further discussion), the search for meaning making is not fit for purpose here. Identifying instances of learning or meaning making does not show how participation in eco clubs contributes to children's developing action-competence-associated attributes.

I also considered using Discourse Analysis because this seemed to provide a clear structure for the analysis of transcripts of conversations and interviews. However, Discourse Analysis is closely associated with questions of identity and power dynamics, neither of which are a focus of my research. Furthermore, Discourse Analysis tends to focus entirely on the language and what using some words and not others mean and do in a conversation (Wiggens and Riley, 2010). This treatment of conversation divorces the language from the encounter, thus not allowing me to identify *how* action competence develops. The question of how in this research is contained in the context of the dialogue; not in the dialogue itself.

I chose to analyse the data I gathered in this research using thematic analysis. This method is commonly used in much education research and is sometimes referred to as a tool rather than a method of analysis (e.g. Boyatzis, 1998). However, Braun and Clarke (2008) make a strong case for its usefulness and its strength as a method in its own right when applied appropriately to data to answer a question for which it is relevant. They also provide guidelines for how to use thematic analysis so that the outcome is findings that appear from a rigorous and systematic approach to data analysis. The application of a rigorous and systematic method for analysing data is essential for maintaining the validity of the findings of the research (Attride-Stirling, 2001).

Braun and Clarke (2008) identity two types of thematic analysis: an *inductive* type and a *theoretical* type. Inductive thematic analysis has much in common with grounded theory and is used to provide a rich and detailed analysis of the whole data set. This is achieved through coding the data, identifying themes from those codes, and then using the themes to develop a theory and/or a research question or focus. Theoretical thematic analysis is used when the researcher has gathered data with the intention of responding to a specific research question

and has a pre-determined framework that they apply to the data to generate a response to the question. It often involves the use of an already existing theory. Gough and Scott (2000) make a similar distinction using the terminology etic for theoretical thematic analysis and emic for inductive or data-led thematic analysis.

In this research, I used theoretical thematic analysis. I collected the data because I wanted to answer a research question that I had already identified. The categories I used to interrogate the data arose from the theory of action competence and the literature around active citizenship and participation.

Braun and Clarke (2008) also distinguish between *latent* and *semantic* thematic analysis. Semantic thematic analysis uses the exact words spoken in the transcripts as themes while latent thematic analysis involves some interpretation based on the researcher's knowledge of the situation in which the words were spoken, the speakers themselves and other factors of the words spoken. In this research, I carried out latent thematic analysis as during the process of coding the data I assigned the text to categories by interpreting the meaning of the text. For example, informed by the literature, when a child challenges the accuracy of what a teacher says I coded this as critical thinking (Blanchet-Cohen, 2008). Hence, the process of analysis involves both description and interpretation.

In this research, coding involved the process of segmenting the text into chunks that fitted into a framework developed from the literature. During the coding process, I developed the framework by adding to the categories as I identified them in the data. Hence, analysis was an iterative process, where the framework I used remained flexible and responsive to the data set it was being applied to.

In this research, data analysis although largely based on an etic coding process, also had an emic element. Gough and Scott (2000) and Katayama (2009) describe this as a particularly effective way of interrogating data because it has both external and internal validity. The findings will be recognisable to outsiders familiar with action competence theory (externally valid) but will also develop the theory with specific reference to the context of the research and the specificity of the research question itself (internally valid).

This combination of etic and emic approaches allowed me to categorise (and hence code) the data to identify instances when the attributes associated with action competence, CE and participation outlined in Chapter 2 were in evidence.

However, this process of identifying the attributes in the transcripts alone would not have allowed me to explain how participation in eco clubs contributes to the children's developing action-competence-associated attributes. To be able to do this I had to use my insider knowledge (gained through participant observation) of the group recorded in my field notes and the reflections in my research diary to describe the circumstances in which the dialogue in the transcripts took place (the latent thematic analysis referred to by Braun and Clarke, 2008). As this information was located in the data, it required an emic approach.

If I relied solely, on the etic method of data analysis I would have been able to identify the attributes associated with action competence but I would not have been able to say what had led to them arising. Thus, I would not have been able to answer my research question.

The emic approach served three purposes:

1) Description of the encounters where the categories already identified are situated

2) Revision, development and extension of the categories identified from the literature

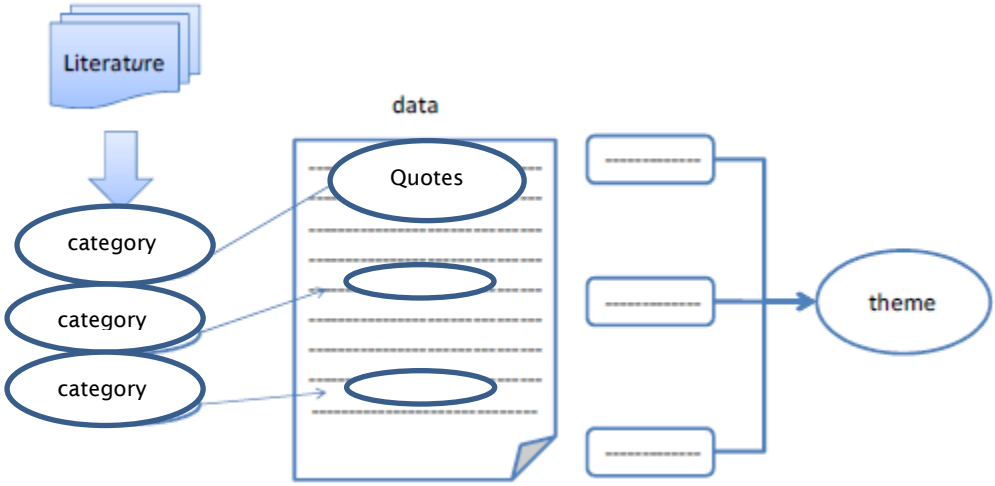
3) Accounting for contradictions between the data and literature

If I had relied solely on the emic approach, I would not have been able to make any sense of the links between my data and the action competence and CE literature. It is only by combining the two methods of data analysis that I was able to answer the research question.

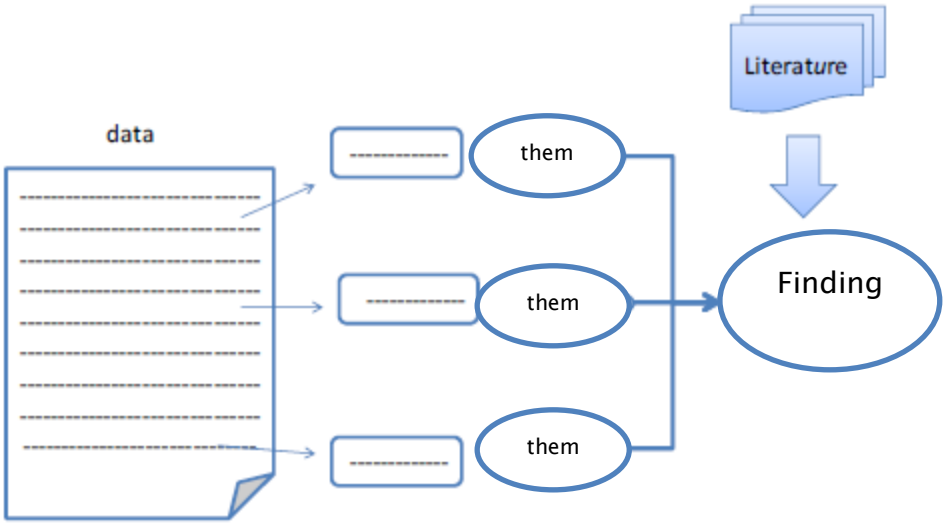
Furthermore, the combination of these two approaches allowed me to develop a model of eco clubs. This model may be able to contribute to the way in which eco clubs are managed to enhance their potential to contribute to the development of children's development of the with action-competence-associated attributes.

Taking this approach to thematic analysis of qualitative data allowed me to achieve generalizable knowledge by reference to theory external to the case, whilst making the data meaningful to the research participants by referring to the encounters in which the data arose.

This hybrid of the emic and etic approaches builds on the work of Katayama (2009) and the following illustrations, which effectively simplify and capture the methods, are modified from her thesis (pp. 160-161).



Disaggregation Phase (Etic)



Aggregation Phase (Emic)

Figure 8.2a: A hybrid of the emic and etic approaches modified from Katayama (2009) (pp. 160-161).

The context of this research is also important in determining the analytical method. The detailed structure of the analytical process became evident in the

process of doing the analysis. This is in line with a transactional methodology approach (See Chapter 3). It was only when immersed in the data that the route out of it became clear. It was like being faced with a ball of thread that had become tangled and knotted. The way to untangle it emerged in the process of untangling it and untying the knots. The untangled thread could then be used to weave a tapestry of themes showing how participation in eco clubs contributes to children's developing action-competence-associated attributes.

Another point to note about the way in which the theory-led framework was modified, relates to the age of the participants. This research was carried out with children aged between 4 and 11. Thus, levels of higher order thinking skills were likely to vary across the age range. The example cited earlier of how critical thinking skills were identified in the recordings from group meetings had to be adapted to include codes for a tendency to be inquisitive, seeking a peer's opinions through asking them what they think, posing questions including 'what if' questions (Costello, 1995; Burnard, *et al.*, 2006; Cremin *et al.*, 2006), examples of a child changing her/his mind about something after listening to another child's thoughts and so forth.

As a participant observer during the meetings, I was constantly combining my own etic view of the data informed by the theory that had driven me to ask the question with my in-depth knowledge of the children in the groups (the participants). This adds another dimension of reasoning to my decision to combine these two approaches in the data analysis phase of my research. This dimension of reasoning is an aspect of the transactional methodology where the appropriate methods emerge in the process of doing the research.

In terms of 'turning towards a participatory mode of consciousness' (Heshusius, 1994; p. 15), the observational element of this research might be criticised for being at odds with this approach to generating knowledge. However, the concept of participatory consciousness implies a *temporary* suspension of the observer mode of thinking. Hence, while the researcher is in the act of participating with the children, the researcher tries to forget themselves and their purpose so as to surrender her/his full attention to the activity at hand. This self-suspension does not preclude being able to observe it at a later time, for example during the

writing up of field notes or the transcription of audio files and the data analysis phase.

8.3 Validity

In developing a framework for analysis, I had to consider how I was going to make the link between the participants' dialogue during group sessions and the analytical framework identified from the literature. In an attempt to answer my research question, I could have ascribed meanings that fitted with the literature but were in conflict with the meaning that the participants held. This would have affected the validity of the claims I could make. I adopted three strategies that helped me to avoid this problem.

Firstly, my role as data collector was to be a participant observer. As such, I was able to step back from the group to log their activities but I also had a rich and in-depth knowledge of the group and its members. This familiarity with the participants (or insider knowledge) gives me more freedom to interpret what they said (Wolcott, 2001).

The second strategy I adopted was to ensure that I coded the data as it is in the audio files. This means that I did not actually change the data in any way; I merely assigned them to a category in the analytical framework using my insider knowledge of the encounters and my interpretation of the children involved and the school context in which they worked.

The third strategy I used was to do some member checking through interviews of the children and the teacher in charge of each group. I produced an interim report of my findings based on the field notes and observation schedules of the meetings. I used this report to produce questions for the children in the groups. I also used the report as the basis for an interview of the teacher in each group. In addition, I gave the report to the headteacher of each school for comment.

Another question I asked myself about my analytical method was whether it would be possible for someone else to take the data and the list of categories I had developed and arrive at the same categorisation as me. This is a question of external validity. Is the method I used replicable in a different context?

Some authors argue that the findings from participant observation should not be subjected to this kind of scrutiny (e.g. Okely, 1994) because one of the tools of analysis that is being employed is the understanding of the researcher. As such, it would in fact be impossible for a different person to arrive at the same outcomes since a different person would have a different subjective understanding. There is, of course, truth in this position and if I was taking a grounded theory approach to data collection I would take such an approach in my work. Furthermore, the coding of the data is supported by my insider knowledge of the encounters, recorded in the field notes that I kept for each session; further complicating the chance that a different researcher would be able to replicate the analysis. However, the purpose of this research is to show how an already established theoretical framework can be applied in this context. Hence, despite the modifications made to the framework to make it suitable to this context, it must be possible for someone else familiar with this theory to code the data in a similar way to arrive at themes that, at the very least, closely approximate those identified in this research.

As described earlier and in line with Yin's suggestion about maintaining validity (Yin, 2003), to verify this I supplied a section of the data to a peer group of researchers. The outcome of this process of peer review was positive. It confirmed that it would be possible to use the (modified) analytical framework and approach in a different setting and it enabled me to develop a description of how the framework and approach can be used by a different researcher in a different setting but a similar context. In other words, it allowed me to develop instructions that allow a different researcher to use the analytical framework developed for this research in a different eco club in a different school to answer the same research question.

In the next section I describe the theory-led framework that I used to disaggregate the data.

8.4 A framework for analysis

The first phase of the analysis (the Disaggregation phase) involved the development of a theory-led framework from the literature. I used the following sources for this framework:

1. Literature on the theory of participation
2. Literature about action competence
3. Literature about active citizenship
4. Knowledge of the group from my role as a participant observer logged in my research diary and field notes

What follows is a description of how these four aspects interacted to produce the analytical framework that I used. I also describe the way in which I used NVIVO10 to manage the data and framework. The theory-led version of that framework is in Table 8a below. The table includes the attributes gleaned from the action competence literature that fit into each of the categories, cites their source and then links them to similar attributes from the CE literature. The full framework including the modifications made during the data coding phase can be found in Appendix 1 (p. 345).

Table 8a - The initial unmodified theory-led framework for analysing the data

Attribute sets	**Attributes (categories and subcategories)**	**Action Competence literature source**	**CE literature source**
Skills	Communication Research Discussion Reflection Critical thinking Visioning alternative	Carlsson and Simovska, 2012 Breiting *et al.* 2009	Crick, 1998 ('use imagination when considering the experience of others' p. 46) Westheimer, 2008

	solutions		Hoskins and Deakin Crick, 2010 Costello, 1995
Knowledge	Knowledge *about* problem or issue under investigation including the causes of the problem and its effects Knowledge *about* possible solutions and local context Knowledge *about* local conditions and opportunities and how local conditions affect change strategies for the problem Knowledge *about* local environmental issues Knowledge *about* local people involved in caring for the	Schnack, 2003 Jensen, 2002, Jensen, 2004 Breiting and Mogensen, 1999	National Curriculum 2012 'what improves and harms their local, natural and built environments and about some of the ways people look after them'

	environment		
Volitional dispositions	Willingness to participate, Confidence to participate Engagement, Commitment, Involvement Willingness to question authority Willingness to suggest alternative solutions Visioning alternative solutions/outcomes Expressions of ownership of project Confidence in own influence Empowerment	Jensen & Schnack, 1997 Simovska & Carlsson, 2012 Jensen, 2004 Breiting *et al.,* 2009 Breiting and Mogensen, 1999 Fontes, 2004	Hoskins & Deakin Crick, 2010 Crick, 1998 Zint and Levy, 2012 Hoskins *et al*., 2012
Experiential Understanding	Experience of taking action	AC and IVAC gives experience of action	Breiting et al, 2009; Jensen, 2002; Carlsson

	Experience of making changes	and change Participatory theory focus on experiential learning through being a part of the learning CE gives 'opportunities to participate in ….'	and Simovska, 2012 Schnack, 2003 Hart, 2008b Westheimer, 2008 National Curriculum

8.4.1 Action competence

If the analytical framework is the skeleton of the analysis then action competence is the backbone of that skeleton. However, other work that uses action competence as an analytical framework has the IVAC model as a starting point (Carlsson and Simovska, 2012, Breiting *et al.,* 2009). Such programmes have objectives that include the development of the participants' skills and capabilities for investigating a problem, visioning alternative solutions, taking action and instituting changes. The researchers can then analyse the data they gathered in the light of whether these objectives have (or have not) been met. The cases that I worked on did not take such an approach. Hence, I could not analyse the data from such a perspective.

My starting point is a group set within a liberal education system where the learning is informal but the outcomes are tied to the targets and commitment of the members. The setting of that group is a primary school in England. Researchers have found that extra-curricular activities help to encourage active citizenship through providing opportunities for pupils to develop their interests and skills in areas not sufficiently addressed by the curriculum (Youniss, 2011;

Keating *et al*., 2010; Schusler *et al*., 2009; Dyment, 2004; O'Donovan *et al*, 2010).

For this research to be relevant to the setting (i.e. the English schooling system) and impactful at a broader level (e.g. practice in primary school eco clubs) it makes a link between the attributes developed in action competence with those developed in CE. Hence, I have grouped the action-competence-associated attributes gleaned from the literature to facilitate comparisons with the attributes of an active citizen (the ostensible aim of a successful CE curriculum).

If the backbone for my research framework is action competence then I have grouped the vertebrae according to literature on active citizenship and the CE curriculum. In the next section, I explain how I have used the CE literature to help me to categorise the action competence-associated attributes into categories.

8.4.2 Citizenship Education

The (non-statutory) CE curriculum for primary schools categorises CE according to knowledge, skills and understanding in the same way as it does all its statutory curriculum subjects. Additionally, the CE curriculum includes a further category entitled 'breadth of opportunities' that gives examples of how the knowledge, skills and understanding germane to this subject should be taught. The interim report submitted to the one of the schools in this study used these themes to organise activities that took place in the groups. This was a useful exercise for organising the data (particularly from Case 1) and making it meaningful for the participants to comment on.

For the purposes of the analysis, these categories (knowledge, skills and understanding and breadth of opportunity) are insufficient. The vocabulary does not encompass dimensions of active citizenship such as dispositions and values identified in 1998 by the advisory group on citizenship in their report entitled 'Education for citizenship and the teaching of democracy in schools'; heretofore referred to as the Crick Report (Crick, 1998). It also does not distinguish adequately between sets of attributes such as skills and knowledge.

There is in fact very little clarity anywhere about the distinction between these terms (knowledge, skills and understanding and breadth of opportunity). Before

showing how I have categorised the action-competence-associated attributes, I outline how I use the terms in this report and which terms I prefer to use (namely, skills, knowledge, volitional dispositions and experiential understanding). It will be obvious that there is still some overlap between these four attribute sets. But this is inevitable and unproblematic providing that they be accurately coded in context. For example, when a child suggests alternative solutions to a problem this might be coded as *critical thinking,* which is a category of the attribute set *skills.* Or it might be coded as *visioning alternative outcomes,* which is a subcategory of category: *envisioning* in the attribute set *experiential understanding*. The decision as to how to code it will depend on what the context of the text is. So, if the child is suggesting that the teacher is making the wrong decision about the problem, the child is challenging the teacher's authority, hence it is an example of *critical thinking* and is a *skill*. On the other hand, if the child is participating in a reflective discussion of a question and is drawing on past experience to suggest an alternative solution, then this is an example of *experiential understanding*.

In the next section I outline the sets used to categorise the attributes in the analytical framework. I link this to theory that informs the construction of the theory led aspects of the analytical framework.

8.4.3 The attribute sets

In this research, a skill is defined as a type of knowledge that enables the skill holder to do something, such as research an issue on the computer. In action competence research, skills are often categorised as an aspect of knowledge (e.g. Carlsson and Simovska, 2012). This is problematic for me as there is clearly a difference between knowing something about a problem and having the ability to do something to solve a problem. For Carlsson and Simovska (2012) a skill is equivalent to *knowledge* of *how to* do something, hence they categorise it as knowledge.

However, knowing something about how to solve a problem is not the same as having the skills to solve a problem. For example, *knowing* how to design an online survey is not the same as having the skills to do so. Someone who is

paralysed may know how to do an online survey but would not have the skills required to do so. Hence, in this research I kept skills as a separate category from knowledge. This also allowed me to make a clear connection to the way that literature about research on CE categorises these attributes. In CE, skills are commonly distinct from knowledge.

I identified skills it by coding for them when they appeared in the transcripts. I used my field notes and research diary to cross check the accuracy of the coding as this coding process is retrospective.

Another way of classifying attributes would be to talk about aptitudes. I chose not to use aptitudes as they imply something passive and potential rather than existential. In this, I concur with Fontes (2004) in his description of the difference between capacity and competence. Capacity is something that is not actually in existence and cannot be measured by seeing it in action because in action it is something else. However, competence is best identified by observation of it in mobilisation.

The Crick report (Crick, 1998) refers to aptitudes as something essential that a CE curriculum must develop. I agree broadly with this position, however, I do not think that it is possible for me to identify when the potential for the development of an aptitude is being afforded in the same way as it is for a skill. It is possible to say that a learner is developing their discussion skills by observing them talking about a controversial issue; hence it is possible to state that group discussions of controversial issues afford opportunities for the development of action-competence-associated attributes.

It is not possible to say that a person is developing their aptitude for discussion in the same way because there is no way of knowing what a person's aptitudes are, short of measuring their neural activity. The terminology encourages the mind-body duality that this research tries to avoid. Furthermore, it could be argued that not everyone has the same aptitudes so to suggest that an aptitude is something essential, is controversial as it suggests that anyone that does not have a particular aptitude is deficient. For example, an individual who has autism does not have an aptitude for interpersonal communication but is still capable of active citizenship.

I use knowledge here in the cognitional sense in reference to knowledge *about* the problem or issue under investigation, knowledge *about* possible solutions, knowledge *about* local conditions and opportunities (Schnack, 2003). I do not include knowledge of *how to* in this category, hence I deviate from the work of Carlsson and Simovska (2012) in this respect for the reasons outlined earlier.

I identified knowledge by coding for it when a group member exhibited it in the observation recordings. Jensen calls the kind of knowledge required to solve environmental problems 'action-oriented knowledge' (Jensen, 2000; Jensen, 2004). He describes this as knowledge directly relevant to the environmental (or health) problem. He divides it up into four dimensions as follows:

- Knowledge about the kind of problem (i.e. its effects)
- Knowledge about the root causes of the problem
- Knowledge about how to change the problem
- Knowledge about alternative solutions

He includes complex ideas in the list of possible attributes associated with each of these dimensions of action-orientated knowledge. For example, knowledge about how to change the problem includes knowledge about the structural context of the problem. This conception of knowledge is in line with the kinds of knowledge mentioned in Carlsson and Simovska's research (Carlsson and Simovska, 2012) and that referred to by Schnack (Schnack, 2003). I used these dimensions to help me to code for knowledge in my data. However, I deviated from this understanding of knowledge to a more open-ended conceptualisation. Jensen and Carlsson and Simovska base their conceptualisation of the knowledge category on research which investigates an intervention programme using the IVAC model. Hence, evidencing the programme's success necessitates the identification of problem-specific knowledge. By comparison, this research does not fit within the same parameters. The knowledge gained by the children in these groups is not related to an investigation into a specific problem (although it sometime is). Thus, it was necessary to modify this conceptualisation of knowledge to allow me to code for knowledge that was relevant to the activity in which the dialogue being coded took place. For example, in a discussion about

climate change, I coded knowledge about climate change. In an activity of surveying bugs in the school grounds, I coded knowledge about bugs.

Volitional dispositions – It would have been possible to use volitions and dispositions separately as categories in this research. It is possible for people to have dispositions that are not volitional. However, in action competence, the dispositions that emerge from the literature as contributing to the development of action competence are those that predicate willingness and an active approach (see, for example, Jensen and Schnack, 1997). In other words, they are volitions. Hence, it makes sense to qualify disposition in this way. A disposition is a tendency that predisposes a person to act in a particular way. The development of volitional dispositions regarding environmental issues or political participation are clearly valuable outcomes of CE.

Opportunities for developing volitional dispositions were identified in the data by coding encounters in which children showed for example, high levels of engagement or enthusiastic participation. The eco club was deemed to be affording children opportunities to develop these dispositions. So, despite the fact that the dispositions are internally held and their development is difficult to identify, it is possible to identify when opportunities for their development arise.

By way of elaboration, *engagement* is included in this set because it as an attribute that demonstrates the will to be involved with issues of an environmental nature. In terms of active citizenship, the willingness to engage with these sorts of issues has been found to be a useful predictor of future participation in political activity (Keating *et al*. 2009). In itself, engagement is difficult to identify through dialogue, hence in the final framework it was subcategorised in a number of different ways.

Experiential understanding – Understanding is included separately from knowledge because it allows a link to be made to experience. This is a significant element in both research into action competence (see the IVAC model, Jensen and Schnack, 1997; Schnack, 2000) and CE (Crick, 1998, Biesta *et al,* 2009, Hoskins & Deakin Crick, 2010), so it warrants inclusion. It also features in participatory theory where experience forms the basis of participation. In this research, the set includes any instances where participants exhibit understanding gained through experience. This could be manifested in the act of talking about the

experience as they have it in the sessions, or by using experiential understanding gained outside of the sessions through, for example, referring to these experiences in their dialogue.

Researchers working the data analysis method called practical epistemological analysis use experience in this sense. An experience is not just something that happens in the past, but is also an individual's remaking of a past event by applying it to a current encounter (Ohman and Ostman, 2007). Ohman and Ostman call this process of remaking an event re-actualisation. Re-actualisation is linked to meaning making. An individual makes meaning of an encounter by bringing prior experiences to bear on it. This allows the individual to make sense of the encounter and develop a deeper understanding of it.

In this research, I use *experiential understanding* as a set because it allows me to identify what activities and encounters lead to the re-actualisation of prior experiences. This allows me to identify instances of meaning making in relation to action competence-associated-attributes such as experience of taking action and making changes. In this sense, *experience of taking action* is more than just having participated, it is the meaning made from having taken action that will be identified as contributing to the individual's developing attributes (Jensen and Schnack, 1997). Schnack (2000) draws on John Dewey's (1938) conceptualisation of the continuity of experience, which he links to the instantiation of action found in action competence literature. It is the fact that the knowledge (or understanding) that is engendered from experience is the outcome of action that is intentional and directional, which sets it apart. Entitling this set *experiential understanding* helps to qualify the coding process involved.

The *experiential understanding* coded for in this data is that which relates to change, action and envisioning. In action competence, the premise is that participation in authentic action enables individuals' willingness and capability to precipitate change. A stage in the process of engendering change is to be able to envision alternative solutions or outcomes. The relationship between these three elements of action competence (action, change and envisioning) is experiential understanding. In the data then, change, action and envisioning are coded for as categories of experiential understanding.

Change in the data usually emerged as a desire for change and action in terms of action competence was rarely observed. It tended to emerge as learning how to take action. However, this does not detract from the potential of experiences such as these to provide opportunities for the development of the action-competence-associated attributes. The encounters analysed for this research did not claim to be adhering to action in these terms, so the fact that they do not do so is hardly surprising.

It is worth noting that envisioning is also a category of the skills set, hence there is overlap between these two sets.

8.5 The Analytical Process: applying the framework

In this research, the data analysis process involved two phases: a disaggregation phase and an aggregation phase. The purpose of the disaggregation phase was to code the data using the theory-led framework to identify when opportunities for developing action-competence-associated attributes emerged. The aggregation phase involved applying the data-led themes to the framework to suggest what influenced the emergence of these opportunities. Putting these two phases together enabled an answer to the research question 'How does participation in primary school eco clubs contribute to children's developing action-competence-associated attributes?' to emerge. In the next section, I outline the way in which this was achieved. I present a simplified directional version of the process for the sake of enabling its replication. However, in practice this process was iterative, drawing on participatory consciousness arising from earlier and later phases of this research.

8.5.1 A systematic process

In this section, I explain how I have worked to ensure the integrity of my findings through maintaining both their external and internal validity and the reliability of the data on which they are premised.

Silverman's (2010) categorisation of validity into the constant comparative method, comprehensive data treatment, deviant case analysis and using appropriate tabulations informs my work but I also draw on Maxwell's (1996)

conceptualisation of validity in qualitative research. I deal with each of these separately below.

It was important, in this research, to maintain a systematic approach to analysing the data. This improves the potential for replicating the method, thus increasing the external validity of the findings. It also improved the reliability of the method, thus increasing the internal validity of the findings. Moreover, a systematic approach is essential in case studies where a cross case analysis is planned. If the data have been treated in the same way then comparisons can be made, within the limits of the contextual differences of the cases. If the data from the two cases had been treated differently, it would have been difficult, if not impossible, to compare the findings across the cases in any meaningful manner.

Having said that, there were some significant differences in the treatment given to the two cases that arose during the fieldwork phase.

8.5.1.1 The constant comparative method:

Silverman (2010) describes the constant comparative method as being applicable to the data within one case or between more cases. The very different nature of the two cases made the constant comparative method difficult (but not impossible) to apply across the two cases; hence limited use of the constant comparative method was made in the cross case comparison. It was easier and more appropriate to apply the method within cases. This is because within each case, similar activities were repeated at different times or with different groups of children, hence it was possible to show that similar activities elicited similar attributes. This was facilitated by the comprehensive data collection and systematic treatment applied in this research.

8.5.1.2 Comprehensive data treatment

Treating data comprehensively refers to the need to give equal attention to all parts of the data in gathered during the fieldwork phase.

In this research, I achieved comprehensive data treatment by transcribing and coding at least one recording of every single session that I attended. In the

instances when recordings were unclear, I referred to the video recordings (where these were available) or to the secondary audio recording.

Although it was beyond the scope of this research to transcribe pauses and body language, transcription of all dialogue was carried out. Additionally, the use of NVIVO10 allowed the transcriptions to be toggled to the audio recordings, and in this way it was possible to cross check text with audio data where further detail about the dialogue were deemed helpful. The availability of written field notes and observation schedules enhanced the comprehensiveness of this process by providing the relevant detail required as an adjunct to the audio recordings.

8.5.1.3 Deviant Case Analysis

Deviant case analysis is the searching out of data that do not fit with the explanations put forward by the research. In this research deviant case analysis has not been possible in the same sense that is described by Silverman (2010). This is due to the nature of the research question that seeks to understand how participation in green/eco groups contributes to children's developing action-competence-associated attributes. In this research it is possible to say that some eco clubs develop more action-competence-associated attributes than others do and to explain how they do this. However, since the question does not correlate one factor with a specific outcome it is not likely that a deviant case will emerge.

However, the cross case analysis carried out in this data goes some way towards achieving the same ends. It does this by seeking out dilemmas in the data that do not seem to fit with the rest of the data or with the literature and seeking an explanation by referring (where appropriate) to the other case (See Chapter 10). The fact that the two cases investigated in this research were markedly different in terms of how they corresponded to the criteria established from the literature generated a level of validity not possible from just one case. Although it is not possible to identify a specific causal factor, it is clear that the set-up in one case was more conducive to the development of action-competence-associated attributes than the set-up of the other.

8.5.2.4 Using appropriate tabulations

The use of NVIVO10 to manage and code the data made it possible to present tabular representations of the comparisons within the cases and across the cases.

This greatly facilitated the discussions of each of the different mechanisms that influenced the development of action-competence-associated attributes because it allowed me to refer the whole data set when describing them. Concomitantly, this increased the validity of my findings by providing the wherewithal to both explore the entire data set and to manifest this exploration in my findings.

All of these claims to validity are premised on the reliability of the data gathered in this research.

8.5.2.5 Reliability

To achieve reliability I designed a system to analyse the data. Before presenting the system I used I will clarify some terminology it relies on.

Figure 8a below presents the data analysis and data coding process. The data in this research consist of transcripts of audio recordings of observations and interviews. The data were transcribed in NVIVO10. For each transcript the following process ensued.

1. The transcript was coded in a disaggregation phase using the theory-led framework into categories (referred to as *nodes* in NVIVO).

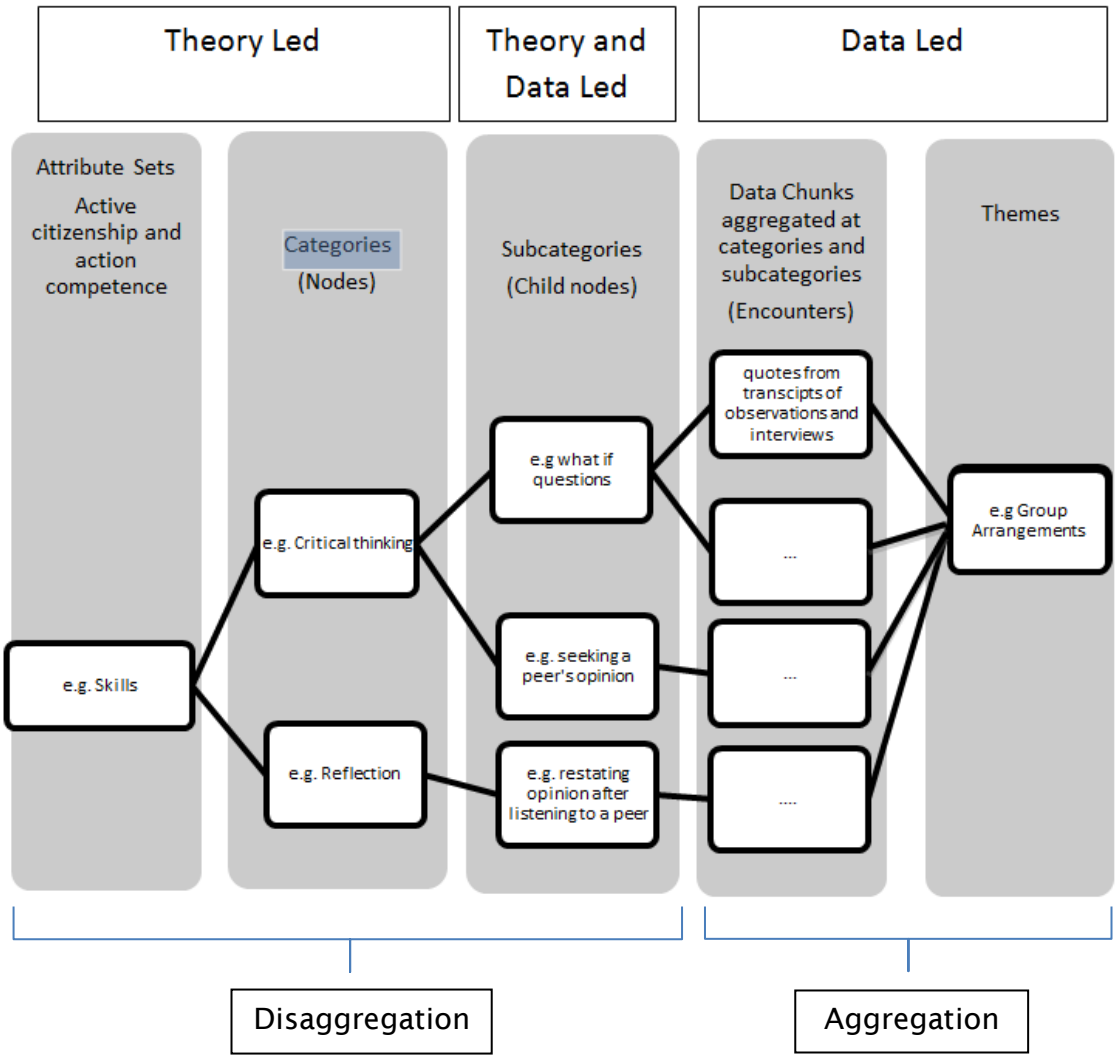
2. The transcript was coded a second time into subcategories (referred to as *child nodes* in NVIVO)

The data were now in the form of disaggregated chunks of text corresponding to encounters

3. The data chunks (roughly corresponding to encounters) were aggregated into themes that were data led.

8.6 Applying the framework

Figure 8.5.2a - Examples to clarify the use of the terminology for thematic analysis and data coding process



In Figure 8.5.2a above the categories and subcategories were used to *code* the data. The word *code* refers to the act of labelling the data with the theory and data-led framework. In this research the *themes* emerged from the data. The themes provide an explanation of how participation in eco clubs contributes to children's developing action-competence-associated attributes.

The system for analysing the cases proceeded as follows:

8.6.1 8.6.1 Case 1

Data preparation 1: to set up the data so that it is easy to manage, access and screen

1. Upload all audio and text files to NVIVO10 in designated folders (one for each data type e.g. audio files, observation notes) and sets (one for each session)
2. Set up nodes using the framework of categories and subcategories developed from the literature

Data analysis 1 (disaggregation - to identify instances of where opportunities for the development of action-competence-associated attributes arose and to code for these instances in the data by labelling the instances using NVIVO10

3. Listen to the audio files of the observations and transcribe the majority of the data. Make notes using the annotations and memos function in NVIVO10 of any thinking that may be significant for the coding process. Make any necessary changes to the framework that are suggested by the data
4. Code the transcripts according to the framework
5. Simultaneously make notes about possible emergent subcategories and their placement in the files
6. Code the audio files again for emergent subcategories by adding to the framework of nodes in NVIVO10 noting any changes to the original framework using the sets function in the programme
7. Simultaneously make notes about possible contradictions in the data and their placement in the files (e.g. search for researcher impact)

7a) Revise categorisation of entire data set to account for any impact of alterations and unexpected changes to the analytical framework that emerged at the latter stages of the disaggregation process

Data analysis 2 (aggregation) – to create a framework from the data of the factors (including dilemmas) that lead to the affordance of opportunities for the development of action-competence-associated attributes and to use NVIVO10 to present the aggregated data appropriately.

8. Set up a framework of data-led themes for aggregating the coded data to explain how participation in the clubs influenced the opportunities afforded for developing action-competence-associated attributes

9. Use matrix coding in NVIVO10 to apply these themes to the data. This allows themes to emerge by identifying groups of nodes and child nodes associated with different activities or other themes identified during the process of participant observation, data transcription and the disaggregation phase of data analysis.

10. Search for any other themes in the coding such as dilemmas and seek an explanation for these themes

11. Record themes using tables and quotes to exemplify the findings (See Chapter 9 and 10)

8.6.2 Case 2

- Repeat steps 1 to 11 for the second case.

In practice, this process was not strictly sequential. The emic dimension of the data coding process complicated matters. Categories emerged as I moved through the body of data, and this necessitated a return to already coded files to apply the new categories. Consequentially, Steps 3-8, whilst more or less adhered in sequence, involved some alternation. Moreover, the process of using a peer research group to check for confirmability or corroboration (Lincoln and Guba, 1985) also affected the structure of the framework somewhere between Steps 4 and 6. To account for these influences I included a final data coding step (Step 7a) whose aim was to reconcile/rationalise the coding process across all of the data sets within the case.

This interactive, iterative process is in line with Model 1 in Chapter 3 (p. 118) that outlines the methodology applied to this research.

My original plan was simply to code the dialogue, so that each coded item would be a specific quote, however it was also necessary to code chunks of dialogue that corresponded to activities such as a whole group discussions of a controversial issue. These chunks of data would still be dialogue but the meaning of the code would not be expressed in the words used in the audio-recorded conversations, but would emerge from the encounter that the conversation represented. For example, the dialogue deriving from a discussion of a controversial issue might be coded as listening. Clearly, the dialogue itself is not about listening, but within the encounter containing the dialogue, listening is one activity that happens. Hence, in these instances, the code refers to the encounter, not the dialogue itself.

These various constituents of the encounters in which the dialogue takes place were recorded in field notes and observation schedules, both during and soon after the sessions. I also recorded reflections about the encounters immediately after the sessions on my audio recorder and then later in my research diary. In transcribing the audio data, I was able to refer to these different sources and, where necessary and using the functions within NVIVO10, I noted the nature of these activities alongside the dialogue. During the subsequent coding process, I used these notes to help me to code the data as accurately as possible. Chapter 9 presents the analysis as dialogue in the context of encounters to elucidate the coding process and the themes that emerge from the data led analysis.

8.7 Conclusion

In this chapter, I explain how I developed the theory-led analytical framework from the literature on action competence and CE. I describe and explain the data-led modifications to the framework . I delineate the process of analysing the data to demonstrate the way in which the findings of this research are underpinned by reliable and valid methods. In the next chapter, I present the themes that explain how eco clubs contribute to the development of action-competence-associated attributes.

Part 4 Findings

Chapter 9

Themes and Dilemmas

9.1 Introduction

I approached processing of the data-led (or aggregation) phase of the analysis as if I was writing a chapter of the thesis. In fact, I originally intended to include it as a chapter. However, doing this systematically and with appropriate depth and precision resulted in the production of a long and somewhat arduous chapter that did not seem to me to enrich sufficiently the thesis to make it worthy of inclusion in its entirety. The inclusion of excerpts from the children's conversations is important because it shows how the research maintains the integrity of the data and the children's voices in the research. Moreover, illustrating the data processing that I undertook underscores the evidence-based approach taken in this research. However, the sheer volume of data I drew on does not add anything beyond illustrating the richness of the data and the way in which data processing took place. Moreover, this case by case analysis did not include any references to literature. The same impact (i.e. illustration of the data processing and the richness of the data) can be achieved through including a short section of the process with significant excerpts here and including the entire process in Appendix 7, p. 375. Additionally, the data processing is further illustrated in the second section of this chapter. In the second section of this chapter, I process the data to explain dilemmas that arose during the fieldwork and case by case analysis. This section does make reference to literature hence it contributes a significant element to the argument of this thesis.

Thus, in the first section of Chapter 9, I delineate and explain the themes that were used to aggregate the data in the case by case analysis. I explain how the data was interrogated to elucidate the impact of the themes and I illustrate this

process with a section copied from Appendix 7, p. 375 to illustrate the richness of the data and the way in which data processing can take place.

The themes that arose from my observations during the data collection phase are as follows:

Case 1:-

- Group arrangement (whole group, sub group or individual)
- Activity Focus
    - Whole group activity focus (controversial issue discussion, planning-based discussion, plenary-based discussion)
    - Sub group activity focus (task-based activity focus, planning-based activity focus, research-based activity focus)

Case 2:-

- Group gardening activity
- Planning session

Before proceeding, I outline what each theme means in the context of each case. The themes for the two cases are explained separately.

9.2 Case 1 Themes

9.2.1 Group arrangement

My observations of the sessions in Case 1 revealed that the work that was being carried out was achieved by varying the arrangement of the way the children worked together. In other words, sometimes the work would be carried out by the group as whole (between eleven and fifteen children and the teacher), sometimes by smaller sub groups (of between two and five children) and sometimes the children would work individually. During the data collection and analysis phases of this research it became evident that these different had an impact on the kinds of attributes that were being developed. In Section 9Ai in Appendix 7, p. 375 I tabulate the different attributes sets (i.e. experiential understanding, knowledge, skills and volitional dispositions) against the group arrangements. These tables depict the range and kinds of attributes that are

being developed in each set by stating whether the attribute was found to be present or absent in each group arrangement.

The literature about group work defines a group as a gathering of individuals whose achievements are interdependent in terms of goals and success (Brown, 1988). The Case 1 club was comprised of a group of between eleven and fifteen children who had joined the club voluntarily because they were interested in what the club does. Hence, when they worked as a whole group, the way they worked together determined whether they would be successful or not. In Case 1 the children had a considerable amount of input about the kinds of activities they worked on. They had either been involved in identifying the focus of the group work (in any arrangement) or they had volunteered to join the sub group because they had been given a range of options to choose from.

9.2.2 Activity Focus

Another theme that emerged from the data collection and analysis phases for Case 1 was the focus of the work undertaken in the different group arrangements. For instance, whole group tasks were either discussions of a controversial issue (e.g. direct action taken by Greenpeace to stop drilling for oil in the Arctic), planning-based discussions for the term or session[5] or plenary discussions about the session. Sub group activities were either task-based, planning-based or research-based. For example, an activity with a task-based focus would involve making a box for depositing old mobile phones for recycling, whilst an activity with a research-based focus might involve investigating what sorts of minibeasts thrive in the locality. This latter categorisation was sometimes problematic because some activities were both task-based and planning-based.

The use of the term plenary here is also somewhat problematic as it implies a process rather than a focus. In general, these plenary discussions were an opportunity for the children to share what they had achieved during the session. Perhaps a better term might be celebrating achievements based activity but this

[5] See Glossary for an explanation of how this term is used here

would be misleading because achievements were not always celebrated. Sometimes the conversations were a chance for them to raise a problem with what they had been doing. Thus, for the purposes of this research plenary-based discussions should be understood to mean discussions in which children shared the progress they had made, celebrating their achievements and talking about any problems they had encountered.

9.3 Case 2 Themes

In this section, I provide a discussion of the analysis of the data from Case 2. Chapter 5 contains a description of the differences between these two cases. Table 5.3a (p184) outlines these differences clearly. An outcome of the considerable divergence between these two cases is that the themes emerging from the two cases are different. For Case 2, with the exception of the (unrecorded) sessions where I introduced my research project to the club and the planning session that took place at the end of the work on the herb garden, this club had only one focus (to plant a herb garden) and only one group arrangement (whole group).

Moreover, the whole group arrangement was complicated by the fact that each time the club met, different members were present. The club consisted of about twenty children. The children were elected by their class. Each class elected two representatives. The plan was for one representative per class to attend every other week. The outcome of this would be effectively two clubs that meet on alternate weeks. However, so many club meetings were cancelled that the children were never sure which week they were supposed to attend. Thus there was very little coherence in terms of the members of the club between the different weeks. It transpired that some children were there for every meeting and others only attended two or three of the meetings during my time at the school.

Despite these difficulties, during the data collection, transcription and coding phases some themes did emerge.

- Group gardening activity
- Planning session

9.3.1 Group Gardening Activity

Theme 1 arose from the nature of the activity they engaged in (i.e. the construction of a herb garden). The volitional depositions evident in the data are associated with the gardening activity. The activity also drew out opportunities for children to talk about their other experiences of gardening, hence the work afforded opportunities for the development of experiential understanding.

9.3.2 Planning session

Theme 2 is the impact of the session where the children were given the opportunity to talk about their ideas for the club in the future. This activity arose out of a conversation initiated by one of the children in the club. It took place during an encounter in a gardening session when the herb garden was almost complete.

Box 9.3.2a - Excerpt to exemplify the conversation that initiated the planning discussion theme in Case 2

Tim: yeah it is starting to look good

Rafi: what are we going to do once we have finished?

Tic2: oo we are going to have to think about it.

Rafi: I was thinking we could do the pond

Tim: wildlife

Brownwyn: yeah the pond is a little bit

2+S: the pond. Yes, the pond!

Natasha: it would be nice to have some fish in there, then we can learn about fishes.

Tic2: I know you all really want a pond. I know they are just so expensive

Lucy: but we already have a pond.

Brownwyn: but we should have to put concrete underneath it.

Boy5: we could have one of those like, Eco days when you bring in like 50p or you can like do and we could all raise money for the school funds and then we could do it.

Tic2: ...(*inaudible*)

Tim: I think the next thing we should improve is the wildlife area.

Tic2: do you? Ok…

Tim: we have all those logs we could make some planks and build a little hut. we could make little paths

Rafi: or like you know the planks that were up there my mom took some to the allotment and made like a seating area

Tic2: yes, we did that.

Case 2, Session 16

Following this conversation, Tic2 and I talked about how keen the children were on the idea of fixing the school pond. The outcome of this conversation was a plan to run a session where the children suggested what they thought the club should do in the future.

9.4 Appropriate Tabulations and Data Presentation

In carrying out this data-led (aggregation) phase of the analysis I used the themes explained above to interrogate the data. To achieve this I used NVIVO to draw up tables for each of the attributes sets against the themes and their subthemes like the example below.

Table 9.4 a – Tabulating Group Arrangements and the coding categories for: *Experiential Understanding*

Experiential Understanding	**A : individual work**	**B : sub group**	**C : whole group**
applying knowledge gained elsewhere aggregate	Yes	Yes	Yes
making connections to other	No	No	No
change (stating willingness to change)	No	No	Yes
drawing on past experience to suggest alternative solutions	Yes	Yes	Yes
making change	No	No	Yes
recounting past experiences	No	Yes	Yes
re-evaluating past events or remembering plans not carried out.	No	Yes	Yes
learning about what it means to take action	No	No	Yes
taking action only	No	No	No
envisioning alternative outcomes	No	No	Yes
envisioning alternative solutions	No	Yes	Yes

The binaries *presence* and *absence* were chosen as a way of tabulating the data. NVIVO has the potential to identify numbers of times that a particular code emerges in the data. This means that it might have been possible to say how many times a particular attribute (for example critical thinking) is elicited by a particular group arrangement. However, a number of factors complicated the data analysis process so that the statistics provided by NVIVO were not accurate. (e.g. that fact that planning-based and task-based foci were sometimes present in the same activity). Another reason for this decision is that it was not always possible to record and transcribe all of the dialogue and encounters that took

place during the sessions. Attempting to use numerical forms of data such as the number of coding references assigned to each subcategory during the theory-led analysis phase would have been misleading and thus invalid. Numbers would suggest that the researcher could be exact beyond any doubt, not only in the identification of the attributes from the data, but also in the researcher's ability to capture every single instance when an attribute is being developed.

Furthermore, this research does not ask about what is taking place inside a child's head, since this cannot be observed through participant observation or reliably inferred from transcripts. Although the use of interviews may be able to identify some of a child's thinking, interviews are always limited by the researcher effect. In other words, the interview situation may just as easily be creating the data by asking the interviewee to reflect on their learning as eliciting the interviewee's perspective about an issue (Maxwell, 1996). For this reason, the research can only identify opportunities for developing action-competence-associated attributes. These opportunities are indicated in a number of ways in the data and their coding has been explained elsewhere. The identification of opportunities for developing action-competence-associated attributes is sufficient to answer the research question as it explains how participation in eco clubs contributes to children's developing action-competence-associated attributes. However, there are some encounters that reveal that action-competence-associated attributes are being developed in ways that are not identifiable in the data and coding. Hence, this method cannot claim to identify all of the means by which action-competence-associated attributes are being developed. There is a level at the interface between the child as a group member and the child as member of other structures such as the family or the school or the peer group or the wider local community which this research cannot analyse.

The data gathered during the observations in Case 1 and Case 2 and their treatment with NVIVO10 enables the findings to be described in tables with the categories in each set, themes and their subthemes and the presence or absence of the subtheme in the data. However, a particular strength of this data is the potential to provide rich descriptions of the encounters in which the development of the attributes outlined above took place. Hence, for each of the tables in Appendix 7 (p. 375), I included the transcript of a particularly striking encounter. I identify the encounters selected to expand on the tables by combining my

perceptions (my participatory consciousness) of the encounter during the data collection phase in my role as participant observer, with a function in NVIVO10 that searches the data sources for the encounter with the greatest coverage for the relevant coding combination. In some instances the encounter with the greatest coverage is replaced by an encounter that better represents what takes place because it provides a more in-depth understanding of the events that took place in the club. In these instances, I draw on my participatory consciousness that evolved over the phases of this research. Box 9.4a below is included to show what I mean by these encounters.

Box 9.4a – Excerpt to illustrate the impact of whole group discussions on coding for *change*

Tic1[6]: …what was the reason they did something naughty? Sugar?

Sugar: was to save the world

Tic1: was to save the world… and to get people to know about what they were doing. Do you think that is a good thing to do or a bad thing?

2+ S[7]: GOOD

Tic1: do you think it is ok to do something naughty if it is for a good reason?

2+ speakers: YES YES!

[…]

Mark: yeah, well kind of, it is quite good for that one thing but then you might you would get locked up in jail

Tic1: so it is bad for the person? yeah maybe

[6] Tic1 Refers to Teacher in Charge of Case 1

[7] 2+ S used to refer to situations when more than one person was talking and they could not be identified

Tina: I kind of thinking one company is more important I mean less important than the whole world.

Tic1: but one company, the people that own that company; they need their millions of pounds every year. If you took all the money away from the guy in charge of Shell do you think he will have a happy life? so are you saying you think the world is more important than the guy that owns Shell?

Mark: well, plus everyone in the world?

Tic1: yeah, but how about all the people in charge of Shell? they all need the money.

Tina: yeah I know but you are saying that one company should be able to kill the world.

Tic1: do you think that's not true? do you think they shouldn't?

2+ speakers: No, no laughter... they shouldn't

Tic1: ok, do you think then that you should do whatever you can to stop them?

2+S: ummm

Tic1: what sort of things should you do to stop a company like that?

UnidS[8]: put it out of business...

Tic1: Sophia

Sophia: well, um, you should try and stop them but I don't think you should... personally I wouldn't trespass even if it was to save the world, I wouldn't do that.

Tic1: no that is fair enough ... and some people wouldn't

Sophia: because then you would get put in jail and you wouldn't be able to tell

[8] UnidS used to refer to instances where it was not possible to identify the speaker involved

anyone anyway.

Tic1: why do you think these people decided to do this because these people are going to, well, they got arrested, they won't go to jail... but those people are at risk of going to jail... why do you think they would be willing to go to jail for something like saving the planet? Coco?

Coco: because there are about 7 billion peopple in the world and there is only 7 of them

Tic1: yeah, so do you think that is a sacrifice worth making?

Coco: um also um if shell blew up the whole world then we wouldn't have anyone to sell petrol to.

lots and lots of laughter

Tic1: shell are worried about selling petrol to the people who are becoming extinct

(more laughter)

Tic1: they are worried about selling petrol to the people who haven't got any food

2+ speakers: No no

Tina: well, what if it leaks all over the food and they eat it and then they die? (laughter) Coco have you got someting sensible to say?

Coco: well, Belle was just saying that if they went into jail then it would be bad for them but then they would be doing something good for the world, so would you do it so you be doing it for a good reason but you would be getting a bad thing?

Tic1: that is exactly right... put put your hands up, do you think it is good to do something bad as long as it is for a good reason?

(lots of hands)

The boxes used to present the dialogue in the encounters may have the names of only three of four members of a group of five (in sub group arrangements) or up to fifteen (in whole group arrangements such as that illustrated by Box 9.4a above) participants. Hence, the number of children in the group cannot be inferred from the names that are listed in the dialogue.

In the next section, I present a section from the case by case analysis of Case 1 and Case 2 to show how the process was carried out and to illustrate the richness of the data. The discussions following the tables and boxes are important because they elaborate on how the clubs presented opportunities for the children to develop their action-competence-associated attributes.

For Case 1 I provide an example of the process for the attribute set: *Experiential Understanding* whilst for Case 2 I provide an example of the process for the set: *Volitional Dispositions*.

9.5 Illustrating Data processing

9.5.1 Case 1

The section I have chosen to include here was selected because it includes some rich and diverse excerpts from the children's conversations at the whole group level. Hence it helps to develop the understanding of the cases whilst also demonstrating how the data provide answers to the research question.

9.5.1.1 Whole group focus

The whole group discussions in Case 1 had different foci, which emerge as a second theme. Although this theme is applied as a secondary level individually to each of the group arrangements (i.e. whole group, sub group, individual work), the status of these foci is that of a theme; hence it is described as such in this research. The status of *focus* as a theme is determined by the fact that its impact has an equivalent significance for the development of action-competence-associated attributes as group arrangement does. There are three different types of focus identified in this research: controversial issue discussions, planning-based discussions and plenary discussions).

The table below is produced by categorising all of the encounters with a whole group arrangement and then coding them according to the foci (i.e. controversial issue discussion, planning-based, plenary discussion).

In Table 9.5.1a, the three foci identified as outlined, are tabulated along with the presence or absence of the coding categories across the data set. The table identifies that a greater range of categories for the set, *Experiential* Understanding were developed by the whole group with a planning focus.

Table 9.5.1a – Tabulating Whole Group Focus and the coding categorisation of *Experiential Understanding*

Experiential Understanding	D : controversial issue discussion	E : planning-based discussion	F : Plenary-based discussion
applying knowledge gained elsewhere aggregate	Yes	Yes	No
making connections to other	No	No	No
change (stating willingness to change)	Yes	Yes	Yes
making change	Yes	No	No
drawing on past experience to suggest alternative solutions	Yes	Yes	Yes
recounting past experiences	Yes	Yes	Yes
re-evaluating past events or remembering plans not carried out.	No	Yes	No
learning about what it	No	Yes	No

means to take action			
taking action only	No	No	No
envisioning alternative outcomes	No	Yes	Yes
envisioning alternative solutions	Yes	Yes	Yes

9.5.1.2 Exemplification of Impact of Whole Group Focus

To exemplify the findings evident in Table 9.5.1a the session that is most revealing (See Appendix 5, p. 367 for details of each of the sessions) involved a whole group discussion instigated by a short video about campaigners who illegally board a ship bound for the arctic to investigate the potential for drilling for oil.

In this encounter, (a whole group discussion of a controversial issue) the following categories were identified:

- Change
- Applying knowledge gained elsewhere
- Drawing on past experience to suggest alternative solutions
- Recounting past experiences
- Envisioning

These headings are drawn from the coding categories which have been aggregated according to the five headings to simplify the description of the data. The table below shows how this has been done. In the following section, I include a revealing encounter for each of these attributes that the table identifies as significant. Where useful, I reflect on the inclusion of the category (i.e. the attributes) in the set (Experiential Understanding).

Table 9.5.1.2a - Simplifying the coding categories

Experiential Understanding coding subcategories	Attribute
applying knowledge gained elsewhere aggregate	Applying knowledge gained elsewhere
change (stating willingness to change)	Change
drawing on past experience to suggest alternative solutions	Drawing on past experience to suggest alternative solutions
making change	Change
recounting past experiences	Recounting past experiences
envisioning alternative outcomes	Envisioning
envisioning alternative solutions	Envisioning

These attributes are drawn from the coding categories that have been aggregated according to the five headings to simply the description of the data. In the following section, I include a revealing encounter for each of these attributes that the table identifies as significant. Where useful, I reflect on the inclusion of the category (i.e. the attributes) in the set (Experiential Understanding).

In the remainder of this section, I use excerpts from the data to exemplify the subthemes (controversial issue discussion, planning-based discussion, plenary-based discussion). The purpose of this is to allow the richness of the data to emerge in the analysis. I am selective in the combinations of theme and subcategory I choose to exemplify, using both the NVIVO coverage statistics and my knowledge of the encounters. It may be that some encounters display higher coverage statistics but the richness of the data is lost in the process of selecting an excerpt. In these instances, I chose a different excerpt. Decisions were also based on whether the encounter had been used for other themes. In these

instances, it was deemed appropriate to choose different excerpts to typify the richness of the data gathered in this research.

Chapter 9

a) Change

Box 9.5.1.2a Excerpt to illustrate the impact of the whole group activity focus: controversial discussions, on coding for change

Tic1[9]: …what was the reason they did something naughty? Sugar?

Sugar: was to save the world

Tic1: was to save the world… and to get people to know about what they were doing. Do you think that is a good thing to do or a bad thing?

2+ S[10]: GOOD

Tic1: do you think it is ok to do something naughty if it is for a good reason?

2+ speakers: YES YES!
[…]

Mark: yeah, well kind of, it is quite good for that one thing but then you might you would get locked up in jail

Tic1: so it is bad for the person? yeah maybe

Tina: I kind of thinking one company is more important I mean less important than the whole world.

Tic1: but one company, the people that own that company; they need their

[9] Tic1 Refers to Teacher in Charge of Case 1

[10] 2+ S used to refer to situations when more than one person was talking and they could not be identified

millions of pounds every year. If you took all the money away from the guy in charge of Shell do you think he will have a happy life? so are you saying you think the world is more important than the guy that owns Shell?

Mark: well, plus everyone in the world?

Tic1: yeah, but how about all the people in charge of shell? they all need the money.

Tina: yeah I know but you are saying that one company should be able to kill the world.

Tic1: do you think that's not true? do you think they shouldn't?

2+ S: NO, no laughter... they shouldn't

Tic1: ok, do you think then that you should do whatever you can to stop them?

2+S: ummm
Tic1: what sort of things should you do to stop a company like that?

UnidS[11]: put it out of business...

Tic1: Sophia

Sophia: well, um, you should try and stop them but I don't think you should... personally I wouldn't trespass even if it was to save the world, I wouldn't do that.

[11] UnidS used to refer to instances where it was not possible to identify the speaker involved

Tic1: no that is fair enough ... and some people wouldn't

Sophia: because then you would get put in jail and you wouldn't be able to tell anyone anyway.

Tic1: why do you think these people decided to do this because these people are going to, well, they got arrested, they won't go to jail... but those people are at risk of going to jail... why do you think they would be willing to go to jail for something like saving the planet? Coco?

Coco: because there are about 7 billion peopple in the world and there is only 7 of them

Tic1: yeah, so do you think that is a sacrifice worth making?

Coco: um also um if shell blew up the whole world then we wouldn't have anyone to sell petrol to.
lots and lots of laughter

Tic1: shell are worried about selling petrol to the people who are becoming extinct
(more laughter)

Tic1: they are worried about selling petrol to the people who haven't got any food

2+ speakers: No no

Tina: well, what if it leaks all over the food and they eat it and then they die?
(laughter)

Tic1: Coco have you got someting sensible to say?

Coco: well, Belle was just saying that if they went into jail then it would be bad for them but then they would be doing something good for the world, so would you do it so you be doing it for a good reason but you would be getting a bad thing?

Tic1: that is exactly right... put put your hands up, do you think it is good to do something bad as long as it is for a good reason?

(lots of hands)

The significant point to make about this excerpt is that conversations about controversial issues are particularly good at eliciting opportunities for children to express their commitment to the need for change. Although this encounter does not exemplify change that is taking place, it does exemplify willingness to effect change. This is significant as it highlights one of the ways in which action competence Theory has been adapted to develop a usable analytical framework for this research. More specifically, in action competence Theory there is a strong emphasis on the need for participants to be involved in planning for and affecting change; in this research a willingness to affect change and some understanding of what this might involve was considered sufficient. This decision is justified by the link made by this research to citizenship education and the development of active citizenship attributes. In citizenship education, the willingness to affect change and some understanding of what this might involve is considered appropriate. For example, a learning outcome of the KS2 curriculum for citizenship education states that children should have the knowledge skills and understanding to enable them '*to face new challenges positively by collecting information, looking for help, making responsible choices, and taking action*'. A willingness to affect change is a necessary adjunct to achieving this learning outcome.

b) Applying knowledge gained elsewhere

In general this subcategory was prevalent in planning sessions because to be able to contribute to a whole group discussion where a plan for, for example the Minibeast City, was being devised, the members had to draw on what they already knew. Hence being able to suggest what insects are likely to appear in the Minibeast City necessitates knowledge about local insects. Such excerpts do not add much in terms of richness to this analysis so have not been included. The excerpt that follows shows how the teacher's approach in encounters with a planning enabled opportunities for the development of attributes in the experiential understanding attribute set to emerge.

Box 9.5.1.2b - Excerpt to illustrate the impact of the whole group activity focus on planning on coding for applying knowledge gained elsewhere

Tic1: Rosa just asked a very interesting question. Rosa?

Rosa: I asked whether this was a real car tyre or not.

Coco: yes it is,

Tic1: yeah it was a real car tyre. pass it round have a feel, feel the black stuff

2+ Speakers (it's a tyre it's a tyre... it is)

Tic1: one at a time, it is what do you think Chloe,

Chloe: it is part of a tyre

Tic1: good, can you think of anything else that you could use care tyres, Tina?

Tina: a purse

Tic1: yeah, absolutely you get people who have purses made of tyres.

Sophia: you can make like tyre swings coz I have got one in my uh

Tina: oh yeah, tyre swings.

Tic1: you can make like tyre swings but is that, would that be recycling? what is the difference between a pencil case and a tyre swing?

Rosa: well, with the pencil case they actually change it into something but with the tyre swing you just attach some rope or whatever so you are not actually changing the tyre into something because it is still a tyre

Tic1: that is true and you get a different use aren't you

Mark: it is reusing not recycling

Tic1: that is exactly right, it is reusing not recycling. so we have recycled it into something different but we would be reusing it as a tyre.

Tic1: but we would be using the tyre as a tyre. can you think of other interesting thing that are made from recycled so something that they have changed into something completely different. Snowy:

Snowy: um fleeces are made out of plastic and um they are still very soft and they are made out of plastic

Tic1: has anyone else ever seen that you can take a water bottle and turn it into a jumper.
(some people saying no...)

Tic1: ok I will see if I can find a picture, (looking on internet to project picture onto wall) they are quite expensive but let's see plastic bottle fleeces. Let's see but they are sometimes very cool looking... is there anything else that involves

something being changed quite dramatically to make something new? yes?

David: I huh I think I know how they make them. do they get the nylon bottles and then make it into like tights for your socks stuff ... so that like fabric stuff

Tic1: that is a really good idea, how do you think they do that? I think you are thinking along the right lines. tell your partner how could they do that?
(lots of very loud and enthusiastic chatter)

Sophia: um you would probably like melt it down and add some stuff to it.

Snowy: they get melted down and then these really brainy thingies turn it into something. It's a bit like it's not exactly the same but …

Tic1: they melt it down and then pour it into a jumper shape
(laughter)

Snowy: they would just be again... they probably like add some chemicals and stuff

Tic1: Daisy what do you think? we have got all these plastic bottles melted down and then some chemicals added... what do you think they do?

Daisy: hmm not sure

Tic1: how do we get from a sheep to a jumper?

2+S: (huh ooo ooo !)
Tina: they shave off the wool they um and they keep on like making um they sew it into a jumper shape.

Tic1: what do they have to do to the wool first?

Sophia: Um I think what they do is they make it into a long, thin bit of thread...

Tic1: so they make the plastic into a thread. good can you think of anything else that is made of plastic bottles like that?

This excerpt is particularly interesting because it shows how the teacher in this group allowed the children to determine the direction of the conversations; thus sometimes a planning session would include a lengthy discussion about a different but related issue. These discussions quite often elicited opportunities for children to apply the knowledge they had gained elsewhere. It is noteworthy that this outcome it a combination of both the whole group focus on planning and TIC1's approach to enabling the children to determine the direction of the group's work. These reflections will be elaborated in the theme, *teacher motivation and approach* that follows later in this chapter.

c) Drawing on past experience to suggest alternative solution and d) Recounting past experience

The excerpt selected to exemplify the links between the coding categories: *drawing on past experience to suggest alternative solutions* and r*ecounting past experience* with the theme*: whole group planning focus* is taken from Session 16 in the encounter where the group were discussing how they would proceed with *the Minibeast City project.*

Box 9.5.1.2c&d - Excerpt to illustrate the impact of the whole group activity focus on planning on coding for drawing on *past experience to suggest alternative solutions*

Rosa: well um when I went out somewhere there was this cool ant room and it was a butterfly world and basically there was this rope and they just walked across it they were leaf cutter ants and they just walked across it because the wire holding the, the bits of wire holding the ropes up had like garlic spread on it and they don't like that. And then underneath it had rippling water and they don't like that either and they just walk across the rope, so you could see them and

then go into their tank.

It is clear from reading the excerpt that the individual is recounting a past experience, hence the excerpt is coded as *recounting past experience*. What is not so clear is how this can be coded as *drawing on past experience to suggest alternative solutions.* The excerpt is taken from an encounter comprised of a whole group discussion with a planning focus about the design of Minibeast City. In this instance knowledge of the full encounter is required to encode the encounter. Such knowledge was gleaned from my role as participant observer and was recorded in the field notes and observation schedules kept during the data collection phase.

The excerpt is a particularly striking example of how these encounters could elicit re-actualisation of experiences; particularly in the atmosphere where the teacher allowed time for a full description of the experience to be manifested. In this encounter, TIC1 allows the group member to describe the full encounter, but this is not always the case. Notwithstanding, even when re-actualisations are not fully expressed, they are being elicited so the data are sufficient to show how participation in Eco Clubs affords opportunities that can contribute to children's developing action-competence-associated attributes.

e) Envisioning

Table 9.5.1a shows that encounters in this theme (i.e. whole group focus) effectively elicit opportunities for developing the attribute: *envisioning*.

Box 9.5.1.2e - Excerpt to illustrate the impact of the whole group activity focus on a *controversial discussion* on *coding for envisioning*

Tic1: ummm yes.. you have always got to make a compromise. If you want something, you need to give something. You can't get anything for free. you can't have fields of sunflowers without talking something away... Mark?

Mark: it was in this book... about one day they might have cities in space where they will be able to grow plants.. so you could because the universe is so big you could just build a massive you could

Tic1: so should we just stop driving until we get that city in space?

2+Speakers: (ummm no no no)

Tic1: if we if we took our grounds at school and took down all the playgrounds and the conervation area

2+Speakers: *no no Huh no not that!!!*

Tic1: and just planted sunflowers seeds we could probably get enough oil in a year so that Ht1 could drive home one day... he might not get all the way home. he lives about an hour away.
2+Speakers: *(lots of laughter... hahahd; loud chatter*)

Sophia: there is no point doing that there is no point using the schools so HT1 could get home.

This excerpt was selected because it exemplifies an encounter where an individual takes/creates an opportunity to express his vision (*it was in this book... about one day they might have cities in space where they will be able to grow plants.. so you could because the universe is so big you could just build a*

massive you could...); it also shows how the teacher can provide opportunities for the whole group to envision different scenarios through the way she manages the discussion. Each question that she asks is designed to give all members of the group the opportunity to think about what would happen in different scenarios using what if questions. This is elaborated on in Chapter 10: in the theme: *teacher management of group interactions* which forms part of the cross case comparison.

9.5.2 Case 2

The tables in Case 2 are slightly different from the tables in Case 1 because the themes did not have any subthemes. I have used dark lines to show when the coding categories are grouped as subcategories.

9.5.2.1 Volitional Dispositions

The categories in the volitional dispositions attribute set were the most frequent in the data gathered from Case 2. Of the twenty-one categories that could have been coded in this set, nineteen were identified in the data. These data shows that the *group gardening activity* was particularly effective at engaging and involving the children.

Table 9.5.2.1a - Volitional Dispositions and Group Gardening Activity

Coding Categories	**A : Ph2Sch2**
1 : Children determining the direction	Yes
2 : confidence	Yes
3 : confidence in speaking out and being listened to	Yes
5 : Empowerment	Yes
Engagement 7 : being impressed	Yes
8 : commitment	Yes

9 : care	Yes
10 : disappointment	Yes
9 : engagement only	Yes
12 : enjoyment	Yes
13 : loving or liking	Yes
14 : volunteering parental input	No
15 : volunteering to do a job	Yes
16 : volunteering to lead	Yes
17 : Willingness to participate	Yes
18 : idea generation by group members	Yes
19 : Involvement	Yes
20 : making decisions or choices	Yes
21 : Ownership	Yes
22 : save the world	No
23 : Willingness to suggest alternative solutions	Yes

Excerpt 1 in Box 9.5.2.1a exemplifies the influence of group gardening activity on the attribute set: volitional dispositions. It is taken from an encounter in which the children are digging up weeds in the patch for the herb garden. The ground has become very hard over a period of weeks since the previous attempt to weed the patch. Excerpt 2 is included to illustrate how the children supported each other through empowering statements like 'there is no such thing as impossible'. In this encounter, the level of difficulty of the activity contributes to the influence of the activity on the opportunities afforded for the development of the attributes in this set.

Box 9.5.2.1a.- Excerpt to exemplify *group gardening activity* and the coding categories and subcategories: *empowerment, confidence in speaking out, being impressed, enjoyment, willingness to participate, idea generation by group members, willingness to suggest alternative solutions*

Excerpt 1

Boy1: that is coz the soil is so hard.

Brownwyn: Wow! Tim, you have already got that far?

Tim: yeah?

boy1: ah wowowoww!

Rafi: this is as big as I want it to be.

Tic1: do you think this is easier or harder than last time?
2+S: harder!

Tic1: it is isn't it? what has happened to it?

boy1: the thing is there hasn't been that much rain that often so all the soil has gone really hard.

Tic1: oh no, but has been raining that is why we haven't been able to do it. That is why we haven't had Eco Club outside because it has been raining every Thursday lunch time.

Tim: so it grows more

Rafi: there are loads of stones and stuff so it is really impossible to dig.

Tic2: hello sweetie! (*to a girl arriving late*) grab a trowel

Rafi: it is nearly impossible to dig there are so many rocks and rubble around

Me: it is hard

Tic2: you can do it Rafi!

Session 12

Excerpt 2

Tic2: Yes you can, I can trust you, just be careful with it.

BoyY6: this is too hard

Brownwyn: No, there is no such thing as impossible!

Boyy6: the only thing that is impossible is impossibility, I know!

Tic2: Wow! Where did that… oh, they need to go in the bag.

Session 12

Excerpt 3

Nial: ohhhg! I think I got it out! yes! (*waves a root arond proudly*!)

Brownwyn: did you get it?

Boy5: eventually!

Nial: it looks like an enormous turnip! pull!

(Lucy pulls from behind and they are pulling it together)

2+S: yoo hoo wooh hooo ! yeah! Yay! (*clapping! laughter and congratulations all round*).

UnIS: oh my goooooo

Lucy: Nial, show it to the camera.
(*he does this and is grinning from ear to ear!)*

Tic2: Nial I think you should go and show Mrs Ht2 that.

Ina: ok...

Tic2: Nial, Nial wait here and we can go and show her after lunch.

Lucy: can i go too?

Tic2: no no let Nial go by himself. Wait there a second, have a break and then we will go and show Mrs Ht2.

Boy5: can I come?

Brownwyn: No, just Nial.

Tic2: no just Nial is going to go because he has worked very hard.

Session 13

Excerpt 4

Katie: that has totally reminded me of Nial and those ginormous roots. He spent the whole lesson talking about it.

Tic2: I know, that was so funny, wasn't it?

Session 17

Excerpt 1 in Box 9.1.5.1.2a provides a revealing example of the coding categories *being impressed* and *empowerment* in the following quote from Brownwyn: 'Wow! Tim, you have already got that far?'. This kind of positive encouragement was a feature of the group work in this club. The fact that Brownwyn is so impressed by the amount of digging and weeding that Tim has done, affords Tim the opportunity to be empowered by the group gardening activity. The group work aspect of the theme (i.e. *group gardening activity*) is clearly influential in affording the opportunities for this kind of positive encouragement to take place. The fact that the group are working on a gardening activity may also be influential; in this instance it might be that Tim is so productive because he enjoys gardening. It may however, be that if this group of children were tidying up a classroom they would be equally impressed by each other's efforts; hence it is harder to make the link between *gardening* and the volitional dispositions of *being impressed* and *empowerment.*

Having said that, a conversation that took place during the planning session (session 17, see Theme 2) about the gardening activity, reveals something about the gardening nature of the activity that is worth noting. This is Excerpt 4 in Box 9.1.5.2.1a above.

The dialogue in Excerpt 4 refers to an earlier gardening session where a boy had spent the session pulling up a root that had proved very tricky to unearth (exemplified by Excerpt 3 in Box 91.5.2.1a). This was seen as quite an achievement, so much so that Tic2 suggested he should take the root to Ht2 to show her what he had achieved. What these two excerpts show is the way in which the work that the boy did impressed not only the other members of the club, but also himself. He reportedly 'spent the whole lesson talking about it'. In this instance, it is reasonable to assume that the job of gardening afforded the opportunity for him to feel empowered by his achievement.

9.5.2.2 Volitional Dispositions and Planning

The *planning* theme afforded opportunities for the development of skills such as *confidence in speaking out and being listened* to; aligned with confidence, the planning session afforded opportunities for the development of *empowerment, engagement* and *involvement* by giving the children the opportunity to have ownership of the club and its . At this point, the significance of a participatory approach to engaging children becomes evident.

Table 9.5.2.2a - Tabulating Planning and the coding categories for *Volitional Dispositions*

Volitional Dispositions coding categories	**A : planning session**
1 : Children determining the direction	Yes
2 : confidence	Yes
3 : confidence in speaking out and being listened to	Yes
4 : confidence solely	No
5 : Empowerment	Yes
7 : being impressed	Yes
8 : commitment	No
9 : care	No
10 : disappointment	Yes
9 : engagement only	Yes
12 : enjoyment	No
13 : loving or liking	No
14 : volunteering parental input	No
15 : volunteering to do a job	No
16 : volunteering to lead	No
17 : Willingness to participate	Yes
18 : idea generation by group members	Yes
19 : Involvement	Yes
20 : making decisions or choices	No
21 : Ownership	Yes
22 : save the world	No

23 : Willingness to suggest alternative solutions	Yes

Box 9.5.2.2a contains excerpts from the planning session that exemplify all of the categories evident in the table above. Confidence, empowerment, involvement, and engagement are evident in the text. The fact that the children are confident enough to voice their opinions about what can be done evinces that the activity of planning the club's future endeavours affords opportunities for the development of these categories.

Excerpt 2 below was selected because it identifies two categories: *ownership* and *disappointment*, that have not been yet been addressed in this analysis. The excerpt is taken from the end of the planning session when the children had already shared their ideas for future directions. The children themselves raised the question of future participation and the feeling of disappointment in the room when Tic2 suggested that others might want to be involved, was palpable. It was clear that the children did not agree that they had done as much good work as Tic2 felt they had. The disappointment category is clearly not an attribute in itself but it is an interesting indicator of engagement, involvement and ownership in and of the club. The fact that they were disappointed by what they had achieved and by the idea of leaving the club, suggests the presence of a sense of ownership amongst the members. This planning session therefore afforded the opportunity for them exhibit their sense of ownership, engagement and involvement with the club.

It is possible that the act of exhibiting these feelings enhances them, thus strengthening the children's motivation to participate in the club's activities and thus increasing the likelihood of the club achieving its goals; as well as shaping those goals through shared interests. In this event the planning session affords opportunities for the development of these categories as well as affording opportunities for strengthening the potential for the club to achieve its goals. In terms of action competence, this is an important outcome whose impact is developed in Chapter 10.

Box 9.5.2.2a - Excerpts to exemplify *planning* theme and the coding categories and subcategories for the set: *Volitional Dispositions*.

Excerpt 1

Lucy: I thought we could like get nest boxes and put them up around the school and then on there is the idea of you can make like your own feeders so you get like free sieves and you put food in them and you could have like a little bird area, a nature area

Tic2: oh I love that idea make some bird feeders.

Lucy: there is this thing to do like on Spring watch. If you get one of those if you get like a bird feeder but you don't fill it up with like food you fill it up with like nesting materials I bits of string or wool that they can put in the bird boxes.

Tic2: I like that idea. So we have got bird nesters, bird boxes and bird feeders fantastic.

Case 2, Session 17

Excerpt 2

Tic2: remember, we don't have to get all of this done by the end of this year; some of this can be done next year and the year after.

Lucy: will we be here then?

Tic2: some of us will and some of us won't

Lucy: do you think we can stay in the club?

Tic2: Well, I imagine it will... oh you mean with members and things?

2+S: yes, yeah, yes

Tic2: I am not sure because in a way it will be nice to give others the chance coz you have done so much good work this year with the herb garden; so it might be nice to give other children the chance be we have still got a few weeks and we will be using your ideas with the new eco group.

Darren: and do we need badges?

Tic2: and we have still got to make our badges.

Hope: we could have a competition...

Tic2: no we have we have already got one from Katy. We still need to use Katy's design. I will put that one there. Coz I might consider making you all…. Umm keeping you all the same just because you have got so many ideas... so it might be nice to keep everyone the same carrying on... because you haven't even got your badges yet, have you?

2+S: yes, yeah, yay!

Tic2: yeah! we could. Right, have a think about it and I will think about which will be the easiest ones to do next and what Ht2 wants us to do as well, and I will discuss it with her.

Session 17

9.6 Concluding the case by case analysis

The case descriptions in Chapter 6 identify that the two cases investigated in this research are quite different. This is corroborated by the different themes from the two cases presented in this chapter.

- Case 1 - Group Arrangement
- Case 1 - Whole Group Focus
- Case 1 - Sub Group Focus

- Case 2 - Gardening Activity
- Case 2 - Planning Session

It is noted that the two Case 2 themes (Gardening Session and Planning Session) bear some similarity to the subthemes of whole group focus: *planning-based activity* and Sub group focus: *task-based activity*. However, the differences in the ways these groups are arranged make cross case comparisons of these themes a fruitless and artificial exercise.

However, there is one theme that is similar across the two cases and one theme that emerges as dichotomous in Case 1 that can be investigated by looking at how it emerges in Case 2. Furthermore, there are two dilemmas of a methodological nature that benefit from investigation across the two cases.

The next section is devoted to drawing out these themes and dilemmas.

9.7 Dilemmas and cross case comparisons

9.7.1 Introduction

In this section of Chapter 9, I discuss two themes that are common to both cases and five dilemmas that emerged during the data collection and analysis phases of this research. Three of these dilemmas resulted in the identification of further themes explaining how participation in eco clubs contributes to children's developing action-competence-associated attributes. The fourth is the impact of the researcher on the data. There is some evidence that the data gathered during this research was influenced by the presence of the researcher at club meetings. The evidence is presented here and its implications for the validity of this research are discussed. The fifth dilemma is an ethical issue about informed consent. It emerged that the children in the groups were generally quite clear about what the research was about or why they were involved; however the plan to involve them influencing the methods used in the research was unsuccessful. This issue is discussed.

I discuss the common themes first followed by the three themes emerging from the dilemmas, followed by researcher impact and then ethical issues. The

discussion of the literature pertaining to the themes will be minimal. The themes are considered together with the literature in Chapter 10. The issue of researcher impact and informed consent will include some key references to enable the development of the arguments made here.

9.7.2 Cross Case Themes

9.7.2.1 Cross Case Theme 1: Teacher management of group interactions

This theme emerges in both Case 1 and Case 2. During the data collection, preparation and analysis phases it became clear that the way that the teacher managed the groups had an impact on the categories for which opportunities for development arose. The way in which the teacher managed the group varied. For example, it could be through positive encouragement through praise (See Box 9.2, Excerpt 4), it could be through leading questions (See Box 9.7.2.1a, Excerpt 1, 2 & 3) or it could be through providing opportunities for otherwise reticent children to voice their opinions (See Box 9.2, Excerpt 2). In each of these instances, the categories that emerged were different.

Box 9.7.2.1a Excerpt to exemplify *Small Group Focus* and the coding subcategories for category: *reflection*

Excerpt 1

Leading questions

Categories coded: increased familiarity and knowledge, applying knowledge gained elsewhere, communication, envisioning alternative outcomes, reflection, discussing a question, willingness to participate, confidence in speaking out and being heard

Tic1: so what measurements do you think we need to take to find out how much of the roof space?

Rosa: um well, we need to measure how wide it is...but I don't know how to do that.

Tic1: Mark what are you thinking?

Mark: you need to put it under it to measure how long it is you need to put a meter under the bottom of it.

Tic1: shall we jsut measure it in one place or shall we measure it in more than one place.

Rosa: a couple of and then add them togther and divide it by how many there are and then you find the average

Mark: coz there might be some wrong

Tic1: a couple, oh you are so smart!

Rosa: we could do it down the middle coz there is a bend there.

Tic1: there is a bend there that would be good and any other places?

Nikita: and maybe there.

Tic1: super ok I am happy with that. we won't be able to climb up and it would be very hard to measure like that so what do you think we should do?

Rosa: maybe if you like measured on the floor so like that or like up to the bannister

Mark: shall we start measuring.

Case 1, Session 17

Excerpt 2

Leading questions and encouraging otherwise reticent members to voice their opinions

Categories coded: increased familiarity and knowledge, applying knowledge gained elsewhere, communication, envisioning alternative outcomes, reflection, discussing a question, willingness to participate, confidence in speaking out and being heard

Tic1: Tom, Tom, why do you think it is never right to do something wrong?

Tom: I don't know..

Tic1: so if if for example, let me see, if someone said to you, right you need to stop Shell from ... I want you to write a letter to them are you happy to do that?

Tom: yeah

Tic1: right, if someone said right, we are going to stop shell we are going to stand outside the petrol station and tell people about them. are you happy to do that?

Tom: hmmm

Tic1: maybe ok

Mark: my dad did that.. it was ESSO when I was like one...

Tic1: if they said we are going to go to Shell head office and talk to them are you happy with that?

(ye yes yes)

Tic1: if they said we are going to go to a petrol station and chain ourselves to the pumps are you happy to do that?

Tom: no

(chorus of inaudible chatter mostly saying no etc)

Tic1: So do you think... why do you think these people made such a sacrifice.. why do you think these people did this naughty thing by tresspassing

(giggling)

and why do you think they made that choice? Jessica?

Jess: because it is like saying if something bad happened to their lives it wouldn't really matter a lot because if the world died it likes it would be the end of our species it can't come back.

Case 1, Session 13

Excerpt 3

Leading questions

Categories coded: increased familiarity and knowledge, applying knowledge gained elsewhere, communication, envisioning alternative outcomes, reflection, discussing a question, willingness to participate, confidence in speaking out and being heard

Tic2: right, what's going to happen is at the weekend once you have finished all of this and with the help of my grandparents I am going to dig up the rest of the weeds and put black liner down. Why do you think the black liner is going to stop the weeds growing?

Katy: no light!

Rebecca: they need sunlight

UnIS: and water and then they wouldn't get it

(*other boys answer enthusisatically*)

Tic2: well done, so the black liner will stop them all growing back up.

Case 2, Session 12

Excerpt 4

Positive encouragement

Categories coded: teamwork, treating other group members nicely, co-operation, empowerment, *engagement*

Tom: woah! Look I got the rake out. look, Ian's got a massive one.

Tic2: wow! this is looking so much better! look at what we have done already!

Me: you have made such a difference, haven't you, together!

Rebecca: all the bigger leaves are gone.

Tic2: yeah and this soil is looking better as well. Rebecca you have done a great job with that.

Case 2, Session 1

A detailed analysis of these differences between the categories that were elicited by the different ways of managing the group has not been carried out for this research. The data presented here points to some of the ways in which these two teachers managed the clubs they worked with. This is sufficient to for the purposes of showing how participation in eco clubs contributes to children's developing action-competence-associated attributes. However, further research into the way that teachers manage group interactions may prove to be fruitful.

9.7.2.2 Cross Case Theme 2 – Variety of group arrangements and task foci

The table below tabulates the average number of categories coded per session. These data are interesting for two reasons. Firstly, there is perhaps less variation than might be expected, giving the contexts. This feature will be discussed in Section 10.3. Secondly, the greatest variation occurs in the attribute set: Skills.

The greater number of codes that emerge in Case 1 could be attributed to a number of the factors discussed in Chapter 6 such as group stability (in terms of longevity, regularity of meetings and constituent members), length of sessions, number of sessions and so forth. The data do not provide a way of definitively identifying what it is that results in these differences. It is likely that all of these factors contribute to some extent. However, it is likely that the range of activities and variation in group arrangements that is evident in Case 1 are particularly influential in determining the difference in regard to the attribute set: Skills. In this set it is reasonable to assume that more, different activities will elicit more, varied skills. After all, there is a limit to the skills that can be developed by the whole group gardening activity carried out in Case 2. In comparison, the combination of task-based, planning-based and discussion-based activities in the

various group arrangements evident in Case 1, afforded opportunities for the development of a greater number of the skills coded for in the Skills attribute set.

Table 9.7.2.2 – Tabulation of the average number of coding events for Case 1 and Case 2[12]

	Case 1 (Average number of categories coded per session)	Case 2 (Average number of categories coded per session)
Total Average per session	47	35
Experiential Understanding	5	4
Knowledge	4	3
Skills	25	15
Volitional Dispositions	13	13

9.7.3 Dilemmas

9.7.3.1 Dilemma 1 – Dissonant approaches to participation

During the sampling phase of the fieldwork, I identified a number of features of the Case 2 club (recorded in Chapter 5) which suggested reduced potential for the affordance of opportunities for developing action-competence-associated attributes. The process of identifying these features was informed by the literature on participation, action competence and active citizenship. These features were particularly likely to undermine the skills associated with critical

[12] The figures in this table were calculated using total references per attribute set as provided by the project in NVIVO10. The figures in this table are only as accurate as my coding. As explained elsewhere, the coding cannot be said to be precisely definitive. Someone else doing this research might have found some variation. However, the fact that I checked my coding with a peer group of researchers and the fact that I revised my coding a number of times means that these figures are reliable enough to be useful in the way that I have used them here.

thinking and many of the volitional dispositions such as confidence and willingness to participate and generate ideas that accompany critical thinking. The features that I identified as likely to have a negative impact included:

- the focus on one activity selected by the teacher in charge of the club (Tic2),
- the short sessions (half an hour),
- the number of cancellations of sessions (eight sessions were cancelled),
- the low level of participation of the children in the management and direction of the group,
- Tic2's limited experience with running such clubs
- Tic2's uncertain commitment to participatory approaches as exemplified in Excerpt 3, Box 9.2.3.1b

However, as the fieldwork proceeded and opportunities for the development of critical thinking and participation, confidence, engagement and idea generation arose unsolicited during club activities, it became evident that this expectation was inaccurate. Table 9.7.2.2a above illustrates the fact that, despite my expectations the difference between the two groups in terms of the numbers of coding events (i.e. the number of times a category or subcategory was coded per session) is not that large.

The excerpt in Box 9.7.3.1a below is particularly revealing in this regard. This dialogue, which has been described previously, is taken from an encounter in which the children are finishing off the herb garden activity. There is no direction from the teacher to elicit the discussion.

Box 9.7.3.1a - Excerpt to exemplify Dilemma 1 (Dissonant Approaches to Participation) that exhibits the following categories from various sets: *confidence to speak out and be heard, critical thinking, generating ideas*, *listening, talking about a subject, envisioning change* and so forth

Tim: yeah it is starting to look good Rafi: what are we going to do once we have finished?

Tic2: oo we are going to have to think about it.

Rafi: I was thinking we could do the pond

Tim: wildlife

Rebecca: yeah the pond is a little bit
2+S: the pond

Natasha: it would be nice to have some fish in there then we can learn about fishes

Tic2: I know you all really want a pond. I know they are just so expensive
Emilia: but we have a pond already.

Rebecca: but we should have to put concrete underneath it.

Boy5: we could have one of those like Eco days when you bring in like 50p or you can like do activities and we could all raise money for the school funds and then we could do it.

Tic2: ...

Tim: I think the next thing we should improve is the wildlife area.

Tic2: do you? Ok…

Time: we have all those logs we could make some planks and build a little hut. we could make little paths
Rafi: or like you know the planks that were up there my mom took some to the allotment and made like a seating area

Tic2: yes, we did do that.

Case 2, Session 16

Moreover, when given the opportunity to suggest plans for the future of the club, the children came up with a frankly astounding number of insightful suggestions. The children made a total of twelve different suggestions for how the school grounds could be improved. The improvements suggested would benefit both children and wildlife alike. I refer to these suggestions as examples of *child initiated direction*. *Child initiated direction* such as this is consistent with what in participatory theory is described as *genuine* participation.

To investigate this dissonance between my expectations based on my initial evaluation of the club and the emerging findings from the various phases of analysis, I employed the constant comparative method described in Chapter 8. The issue informed the analysis of the interviews with the head teacher, the parent facilitator and the teacher in charge of the club. It was on my mind during the transcription and data coding phases of the observations. What emerged from this process that seemed to have a bearing on the dissonance were the following:

- The head teacher (Ht2) and parent facilitator (Pf3) had a different approach to the child voice, child leadership and child participation to the one taken by the teacher in charge (Tic2) of the club. Ht2 and Pf3 are committed to the principle of child voice and participation. This is evident from the quotes in Box 9.2 taken from interviews with Ht2 and Pf3.
- The children in the club had participated in a day long event with YPTE (Young Person's Trust for the Environment) which had focused on the how the school grounds can be a source of environmental learning.

Box 9.7.3.1b - Excerpts to exemplify the dissonance about child voice and participation (Dilemma 1) between the various adult stakeholders involved with St Teresa's Eco Club

Excerpt 1:

Ht2: it is about having a voice that is heard and learning to use your voice and learning to that you have a voice that isn't always heard you need to try a different thing. I think it is so important that it goes alongside, that if you have a voice you don't need to do the unsociable behaviour; so they, they go together and we have invited the mayor and the year 5 and 6 then discussed their problems their difficulties with Chippenham for instance, the empty shops the lack of river frontage and uh litter the graffiti and they had a really good discussion with the mayor and they wrote it all up all, their good ideas and he took that to the council. He took their voices to the council.

Case 2, Interview, Ht2

Excerpt 2a:

Pf3: Especially when they get a bit of ownership [of the club] as well.

Case 2, Interview, Pf3

Excerpt 2b:

Pf3: And if you are getting the children to lead it you are gonna in a more effective system. If they are leading the understanding as well…

Case 2, Interview, Pf3

Excerpt 3:

[…] but when you are in charge at the end of the day then you are the one that has to push it through and actually make it happen because even though the children are so happy to help obviously they are not going to organise it; they can't. And then I think a lot of people are sharing ideas and saying: 'oh lets do this and lets do that.' But sometimes you have to just block it out a little bit and say: 'oh, that is really lovely. Yeah, good idea.' And then just do what you want to do. Because at the end of the day they are not the ones that are going to be

> organising it and they are not necessarily going to do it. So I have learnt that as well, and just sort of to get on with it. You know, I worried for too long that I was doing the wrong thing and I didn't know what I was doing. And then I thought, I am just going to go for it. I am just going to dig a bit of soil and see what happens. Case 2, Interview, Tic2

Excerpt 1 in Box 9.2.3.1b is taken from the interview that I did with Ht2. The comments were made in answer to a question about how an eco club might encourage children to be more participative in their local community. It is clear from Ht2's response that she is strongly committed to giving the children in her school a chance to contribute to the community and to participate in local community matters. The events she describes were not associated with eco club. Nevertheless, they demonstrate how she encouraged participation and child voice across the school. This has an influence on how the children in the school see their role in terms of having 'a voice that is heard'. The links between participation and child voice are evident in the literature on participation. Child voice is linked to high levels of participation. For this head teacher, participation is about child voice. In answer to an earlier question about encouraging participative approaches through membership of an eco club her response is 'It is about voice, isn't it?'. This was said with complete conviction and assurance in her own understanding and interpretation.

Excerpt 2a and 2b in Box 9.2.3.1b are taken from the interview I did with the parent facilitator who was initially involved with the club. During my time with the club she was not able to attend any of the meetings, but she had been involved with the children earlier in the year and had set up the event with the Young Person's Trust for the Environment (YPTE) described previously. Her opinions on giving the children ownership and leadership would therefore have had an influence on the children. The links between ownership of the club and leadership by its young members and participation are strong. The literature on participation links leadership and ownership to high levels of participation (Breiting et al, 2009)). This was understood by the parent facilitator who made these statements.

This is all in contrast to the situation that I observed with regard to how Tic2 enabled *child initiated direction* in the club. Excerpt 3 from the interview with Tic2 is revealing. It is clear from this interview that not only does she not feel able to carry out the ideas of the children ('oh that is really lovely yeah, good idea! and then just do what you want to do') but she also thinks that they are not able to organise the activities ('because even though the children are so happy to help obviously they are not going to organise it; they can't').

There are a number of important points to note here. The first is that it would be very challenging (but not impossible) for the children to organise some of the activities they suggested. The suggestions they made included fixing a wildlife pond and setting up a bird hide on the school grounds. The second point to note is that Tic2 is a part time, newly qualified teacher who in her own words 'has never been in charge of anything in her life'. The complexity of the tasks suggested by the children combined with Tic2's level of experience and her part time status explain why she is reluctant to take on tasks such as the pond ('I know you all really want a pond. I know, they are just so expensive.'). However, these factors do not explain why the children continue to feel able to disagree with her, challenging her authority ('but we have a pond already') and making suggestions of how to overcome any obstacle such as finance ('we could have one of those like Eco days when you bring in like 50p or you can like do activities and we could all raise money for the school funds and then we could do it').

The explanation of the children's persistence despite her reluctance may lie in the dissonance described earlier. The positions espoused by the head teacher and parent facilitator on participation, child voice and child leadership may have influenced the children. This influence may have given them the motivation and volition to speak out when the opportunity arose, despite Tic2's reluctance to heed them.

Moreover, in the interview with Pf3 it emerged that the children had had the opportunity to with a charity called Young Person's Trust for the Environment (YPTE) on a day long project. During this project they did a survey of the school to identify how they could improve the school grounds for themselves and for wildlife. This is likely to have had an influence on their capability, volition and motivation for suggesting future directions for the club.

Hence the apparent dissonance between the head teacher and parent facilitator's approach and that of the teacher in charge of the group may have created an environment in which the children were enabled to exhibit their potential for *child initiated direction*. The dissonant atmosphere, rather than being merely a source of discomfort or tension for the children, provided them with the inspiration to share their ideas about how to improve their local environment. This explanation would be concordant with the views that the head teacher holds on the role of an eco club in a democracy as exemplified in Box 9.2.3.1c. Here she expresses her view that a sense of anger or discontent is a necessary element in a society where democracy remains active. This could be said to be in line with Biesta's position on citizenship through subjectification (Biesta, 2010). This position will be elaborated on in Chapter 10.

Box 9.7.3.1c - Excerpts to exemplify Ht2's approach to the role of the eco club in developing democracy

I mean an eco club or an environement club as well gives the children the opportunity to be angry or discontented which is a very important um need in our society in order to change things. I think they need to feel that things aren't right. To um to have a generation that is completely content and doesn't want to change to me is not healthy. But to have a generation that is thinking: 'this is wrong and I am angry about that!' and that want to use the democracy that we have to change this. So I am not breeding lots of revolutionaries that are going to be stroppy so-and-sos but I want to have people with enough… whether you call it anger or discontent depends on which particular leadership school you go to… So that teachers become teachers because they are discontented; because they want to make a difference; they want to make life better for a child. And if they don't have that then it is not going to be a vocation for them. So I want my children from my schools to have vocations to change the environment to change the world and to feel that they have the chance do so.

Case 2, Interview, Ht2

9.7.3.2 Dilemma 2 – Teacher motivation and participation

Chapter 2 identifies participatory approaches to learning as a significant feature of both action competence and active citizenship. The fact that the data from Case 1 evinces no instances where the children identify problems or activities for the club to take on (i.e. *child initiated direction* is lacking) is noteworthy. This is despite the fact that Tic1 did encourage the children to participate in the club's undertakings at this level. She provided opportunities at an early stage of the club's development and then periodically at the start of each new term but they did not respond. Her approach in this regard is clearly demonstrated by the encounter exemplified in Box 9.7.3.2a. This encounter took place at the beginning of the lesson and led on to a ten-minute whole group discussion about recycling, re-using and climate change. The conversation was unplanned, the result of a child's question about Tic1's pencil case that she had left on her desk.

Box 9.7.3.2a - *Exemplification of Tic1's attitude to child participation in club direction.*

Tic1: Rosa just asked a very interesting question I asked whether this was a real car tyre or not.

Coco: yes it is,

Tic1: yeah it was a real car tyre. Pass it round have a feel. Feel the black stuff. One at a time, it is what do you think Chloe?

Chloe: it is part of a tyre

Tic1: good, can you think of anything else that you could use car tyres for, Nikita?

Nikita: a purse

> Tic1: yeah, absolutely you get people who have purses made of tyres.
>
> Tic1: that is exactly right, it is reusing not recycling. So we have recycled it into something different but we would be reusing it as a tyre
>
> Case 1, Session 19

This encounter would have demonstrated to the children in the club that Tic1 was supportive of their ideas and input; hence it may have served as encouragement to them to exhibit *child initiated direction*.

Moreover, the whole school's approach to participation is enabling. As described in Chapter 5.1.4, the head teacher and the school encourage a participatory approach through the curriculum, in extra-curricular activities and through the school ethos. Hence, there is no dissonance between the school's approach and Tic1's approach as was observed in Case 2.

It was necessary to try to identify why the children who were highly motivated to participate actively during conversations, exhibited well developed critical thinking skills and were positively disposed to lead activities, were reluctant to suggest activities or identify problems to investigate of their own accord (i.e. *child initiated direction*). It should be noted here that there were many examples of the children being happy to suggest directions within a specified arena; for example, during Session 15 Tic1 suggested using an area of the school ground to encourage mini-beasts, the children made many, varied suggestions about how to go about this. However, there were no examples of children independently identifying a direction for the club. *Child initiated direction* of this kind is a prerequisite of the action competence approach and cognate with the kind of aspirational participation described in Chapter 2.3.

I interrogated the data from Case 1 in an attempt to explain this seemingly anomalous observation but was unable to identify a reasonable explanation. In trying to understand the finding, I turned to the data from Case 2. As previously discussed, the children in St Teresa's eco club did exhibit instances of *child initiated direction*. They had identified a number of problems with the school

environment and suggested reasonable and viable ways to improve these. They made these suggestions, whether they had been given the opportunity to do so (as in Case 2, Session 16) or not (See Box 9.7.3.1a). A number of factors contributed to the situation that emerges in Case 2. These include dissonance between Tic2's approach to participation and that espoused by the Ht2 and Pf3 and the involvement of the YPTE.

However, a further factor is suggested when considering the situation in both cases regarding *child initiated direction* alongside each other. The table below summarises the factors considered relevant in Dilemma 1 above and introduces the idea of teacher motivation as a further significant factor.

Table 9.7.3.2a Child initiated direction in a cross case comparison

Factors	**Case**	**Status of factor**
Child initiated direction	1	present
	2	absent
School approach to child voice and leadership	1	supportive
	2	supportive
Teacher approach to child voice and leadership	1	supportive
	2	unsupportive
Teacher motivation and environmental knowledge	1	high
	2	low

As described in Chapter 5, Tic1 was highly motivated by environmental issues and had become a teacher because she felt it afforded her the opportunity to 'make the world better'. The extract in Box 9.2b exemplifies this.

Box 9.7.3.2b - Excerpts to exemplify Tic1's motivation and commitment to environmental principles

Extract 1

I was changing careers from an archaeologist into something kind of more productive and um I wanted to do something to … it sounds like a huge cliché … to make the world a bit better… and I really wanted to do something environmental and looking at all of the jobs that are out there […] I wasn't quite sure which direction to go in; and so I have always enjoyed teaching and I thought: well, teachers have, you know, the future is in their hands really… and if you can impart, sustainable, a sustainable ethos into the children then the future is kind of sorted. If, if you've, you know… if you're educating the future then that, that seemed to be maybe the best way of going about things.

Extract 2

I think that is what I want to get out of teaching: that I can inspire or guide those sustainable habits really, maybe without me even realising it.

Case 1, Interview, Tic1

Extract 3

yeah absolutely, I mean a good example is that we, we've got a Groundforce Day coming up this Saturday and we've… we've held them periodically you know to work on the ... roof and so on, and she, she actually came to the Groundforce Day on the Saturday before she was even appointed here!

Case 1, Interview, Ht1

Excerpt 4

Tic1: oh, I am going to get all uptight again... if you don't change the world who will?

2+S: me, me, me, me!

Tic1: if you don't change the world because it is too difficult or it is not going to work to

UnIS: *inaudible (but clearly flippant) comment*

Tic1: see that is not even a sensible thing to say and I don't appreciate that. I am sorry I can't laugh at that because these are big problems...I can laugh at a lot but I can't laugh at silly remarks like that. Look at all these problems that you have to deal with and your children and I am really surprised... I think when children laugh at that or adults laugh at that… I can't understand that it is a big problem so, I am sorry. Rant over.

Case 1, Session 22

Her motivation is further exemplified by her lifestyle choices regarding transport and eating habits. An encounter where she had some tadpoles in her classroom whose death had led her to tears is supportive of the understanding that she has a high level of commitment and motivation regarding environmental issues and principles.

It is reasonable to assume that her motivation underpins much of what the club does. For example the number of different activities undertaken by the club and her engagement with conversations about controversial issues such as the illegal activity illustrated by the video of campaigners against oil prospecting described previously. A conversation initiated by a video of a cartoon that took place during Session 22 is illustrative of the kinds of feelings that arise from the strength of her personal commitment to environmental principles (See Excerpt 4, Box 9.7.3.2b). Although the speaker's comment was not audible on the recording, it clearly was flippant and upset Tic1, as is evident from her response.

What was striking about the data from Case 1 was that the children did not seem willing or able to suggest activities for the club to take on. I asked Tic1 about this in interview. Her response is copied below.

Box 9.7.3.2c - Excerpt from an interview with Tic1

because this is a new experience for me too running a club like this and doing the whole child centred or child managed learning… that um, initially you do have to do a lot of leading and you know, telling them that, you know? 'today we

are going to do this' and then eventually they will start coming up with the processes by themselves. But initially I have got to put a lot in. But um, I think the children do think that they have got complete control; and they can choose the different activities every week and you know, through their enthusiasm for certain things.

Case 1, Interview, Tic1

This excerpt identifies that she herself was aware that the children were not taking the lead and that she was having to come up with suggestion for potential activities for the children to choose from. It should be noted that this interview took place a month into the data collection phase and that, despite her best efforts by the end of the year (six months after this interview) the children still were not providing *child initiated direction*.

In contrast, in Case 2 the teacher in charge of the club had a very different perspective. Her motivation for taking on the club came mainly from her teacher training course although it may also have been influenced by her grandmother's career as proprietor of a garden centre and nursery. As she identifies herself, she had very little knowledge about the gardening activity she took on and relied on her grandparents to support her. The excerpt in Box 9.7.3.2c illustrates these two points.

Box 9.7.3.2d - Excerpt to identify Tic2's motivations for running St Teresa's Eco Club

[My teacher training provider] really focuses on outdoor education, it is a major thing. we did lots of our planning outside and because [my teacher training provider] has got humungous grounds we did a lot of projects involving the environment. and they did a lot of encouragement to put that into the environment and then because I did a placement here [at St Teresa's School] I saw like how many, like what and I saw what amazing surroundings they had and they had not really developed it at all…

> I did not really know anything about gardening or anything to do with it but I knew that I would have family support with it and I know I would be able to ask them questions so I had no idea about how to start a herb garden but I just called my Nan who ran a nursery and um my nan and grampi just told me what I needed and what I had to do so that gave me a bit more confidence.
>
> Case 2, Interview, Tic2

The excerpt in Box 9.7.3.2d exemplifies Tic2's lack of experience with and knowledge about environmental issues (i.e. her competence). Moreover, the fact that she cancelled seven of the sixteen sessions when the children were supposed to meet, is suggestive of (amongst other things) her lack of motivation regarding this role.

Notwithstanding, the children in St Teresa's eco club exhibited *child initiated direction* and skills and volitional dispositions associated with it; as explained in Section 9.2.3.1.

Although there are a number of variables that make it very difficult to compare findings across these two cases, I posit that the data emerging from these two clubs suggests that teacher motivation may be having an influence on *child initiated direction*. Motivation in this sense refers to Tic1's obvious and self-recognised motivation to 'make the world a better place' by actions to improve the environment. This motivation is exemplified both by the multitude of environmental initiatives she is involved with (both in her job as a teacher and in her daily life outside of work) and in the way that she lives her life (for example, she is vegetarian). This motivation has a positive effect on her competence in terms of her knowledge and understanding of environmental issues. Although she did not always appear to have accurate knowledge (for instance, she did not know the size of the world's human population) she was confident to talk about controversial issues and was also able to handle a certain amount of criticism from the children in the club.

Thus, in Case 1, I suggest that the very high motivation of the teacher overrides the children's volition to suggest ideas for the club to take on. It may be that the children feel overwhelmed by the teacher's motivation and competence and do not feel inclined to suggest any ideas themselves, preferring to let her come up with her own suggestions.

In contrast, in Case 2 it may be that the teacher's lack of motivation and self-identified low levels of competence with regard to gardening has the opposite effect. It inspires the children to exhibit *child initiated direction* in response to her lack of competence. The data do not provide sufficient evidence to make an unequivocal link between low teacher motivation and competence and *child initiated direction*. It may be that the dissonance regarding participation identified in Section 9.2.3.1 (Dilemma 1) is more important and there is a different explanation for the lack of *child initiated direction* evident in Case 1. Further investigation is certainly warranted.

9.7.3.3 Dilemma 3 - Teacher motivation and critical thinking

A corollary of high teacher motivation in Case 1 is the idea that, besides dampening *child initiated direction*, the children in Case 1 appeared to develop a kind of scepticism regarding Tic1's ideas about the environment. The excerpts in Box 9.7.3.3ah provide some evidence for this contention.

Box 9.7.3.3a - Excerpts to evince the subcategory: *trustworthiness of sources* for the category: *critical thinking*

Excerpt 1

Me: Um I think a lot of things that you are learning about, you are learning about so that you can be convinced to try and do something and sometimes that, I mean… and I mean I wouldn't say it was made up but …

Lucy: exaggerated

Me: it is exaggerated. Do you understand?

2+S: yes, yeah (head nodding)

Case 1, Session 24

Excerpt 2

Me: and are your parents also do they also care about the environment and the planet and stuff like that do you think?

Snowy: hmmm well, I try to make them but then they just coz they don't really [*inaudible*] Tic1 so they don't really follow what she says, so they like they just say it doesn't matter. They check it up on the internet and then they actually find out things that are quite different so they don't actually pay that much attention.

Case 1, Interview, Year 4 child

Excerpt 1 is taken from an encounter in which I take over from Tic1 to lead a whole group discussion about human impact on the planet that was initiated by a cartoon of the impact of air pollution on Earth's health. Tic1 was in the room at the time so knew what we were talking about and did not intervene. The dialogue suggests that the children were in some ways sceptical about the video that they had watched and were able to articulate this if asked. Excerpt 2 reveals how parental influence may contribute to the children's ability to question the trustworthiness of what they are exposed to. This is an isolated example across the two cases, but it is significant because it suggests that the opportunities afforded by eco clubs for the development of action-competence-associated attributes are subject to other influences such as home life. This is supportive of Biesta *et al.*'s work on understanding citizenship learning in everyday life (Biesta *et al.* 2009).

Taken together these two excerpts suggest a possible link between the level of motivation and teacher competence exhibited by Tic1 and the affordance of opportunities for developing critical thinking skills such as *trustworthiness of sources*. The data from Case 2 does not offer any further support in this regard as the teacher in that club did not exhibit motivation and competence in anything like the levels of Tic1. Moreover, the data from Case 1 are not unequivocal, being subject to a number of other influences; but further investigation in different but comparable settings in warranted.

9.7.3.4 Dilemma 4 - Researcher Effect

Researcher effect or *reactivity* is the impact that researchers have on the situation in which they gather data. It can have the effect of invalidating findings. Data generated under the influence of *reactivity* will be more representative of the participants' response to the research itself than a representation of the subject of investigation. *Reactivity* is described in detail in Chapter 3 where I also explain how the research strategy modulates the impact of *reactivity* so that the validity of the data and findings are not compromised.

One strategy to modulate the impact of reactivity was to remain vigilant to identify it whenever possible and to account for it in the coding process. In so doing, the data used to respond to the research question could, where possible, be bracketed off from the data influenced by researcher reactivity. Although it was assumed that it would not be possible to identify every single incidence of reactivity, the approach would minimise it enough to avoid any serious threats to validity.

Reactivity was evident in the data gathered for this research. For example, in the case of the category: *being impressed* the following quote is coded: 'eco club is so awesome. Hooray!'. However, the encounter in which this statement is made bears no relationship to the statement, so it appears that the statement was made for the sake of the audio recording.

Another element of researcher effect in this research which is more difficult to identify but should at the very least be noted is as follows. My participation in the club may well have had a positive effect on the children's level of engagement. In fact, when asked what her favourite thing about eco club was, Snowy replied that is was getting to know about my research. The conversation I had with Mark's father about Mark's blogging referred to in Chapter 12 represents another example of researcher impact in this research. There is the potential therefore, that my participation had an effect on quite a range of the attributes identified in the research.

However, in light of the fact that the approach taken in this research was to seek participatory consciousness through a transactional methodology it was always a

likely outcome. It does not invalidate the findings of the research because the findings do not rely on any sort of quantification statistics. The fact that some of the instances of expression of action-competence-associated attributes could be attributed to my presence does not invalidate the themes that emerge. The themes about group arrangement, group size and group focus would not have been any different if I had not been there. The same is true to the gardening activity observed in Case 2. The gardening would have taken place; my presence may have facilitated it but it did not cause it. As such the findings remain valid.

9.7.3.5 Dilemma 5 - Informed Consent

The issue of informed consent was significant in this research for a number of reasons described in Chapter 4. Principally, the research is underpinned by a commitment to participatory theory. Consequently, the treatment of children proceeds from the notion that children are participants in research and not subjects of it (Conroy and Harcourt, 2009). For this to be manifested in practice, children have to be fully informed about the research before being given the opportunity to decide if they want to participate. The research strategy adopted for this research enabled the process of informing the children in a number of ways (See Chapter 4 for details). Care was taken to ensure that the children were informed both before agreeing to participate and were reminded periodically as data collection proceeded. It transpired that this was successful; at least in so far as could be ascertained from the data.

An example of data that revealed this arose in an encounter in a group interview with four of the club members in Case 2. Here initial responses suggested a lack of understanding about the research. When asked if my explanation was familiar, the response was negative. However, as the conversation proceeded it transpired that they did have a considerable understanding of what I had been investigating. This is evidenced by their responses to the question I asked about what skills they thought they had learned during the sessions. These responses were significantly different from those that were proffered during the initial consultation with the children about the research. This suggests that their understanding of the research had in fact developed over the time that I was in the club.

The research was less successful in its attempts to involve the participants as research collaborators. In this section I present some data that contributed to the change in strategy by the time data collection for Case 2 began.

The dilemma I faced arose in part from my role as participant observer and was as follows. In encouraging the children to collaborate in the research I was impinging on the time that they had to devote to the business of eco club. For many of them, being in eco club was about 'saving the planet'. Hence, impinging on their eco club time was impinging on their ability to save the planet. The meaningfulness of this to these children should not be underestimated. In fact, the turning point in the (unrecorded) session in which I consulted with Oldpath Eco Club about their willingness to participate in the research came when one member stated that she wanted to participate because it would help to 'save the planet'.

It is possible to infer from this statement that time spent as research collaborators would be time spent saving the planet. However, it was clear to me that not all of the children in Oldpath Eco Club were equally convinced of the benefits of my research to the planet. Moreover, when I gave Oldpath Eco Club members the opportunity to suggest how the research question could be investigated, their suggestions were similar to those already being used (and which they had had the opportunity to observe). This was informative as it confirmed that the children had understood what the research was about. But it did not contribute anything to the research design or change the research strategy.

Additionally, the nature of doctoral research is that it is constrained by institutional conventions, hence proceeding with fieldwork with no predetermined ideas about how to carry out the data collection is not advisable.

Thus the decision not to proceed with the plan of involving the children in the research was reached. This decision was compounded in Case 2 where the children had considerably less time available to them to devote to eco club business.

One outcome of not involving the children as research collaborators was that it was more difficult to ascertain whether the participants in Case 2 had understood what the research was about. To account for this, I chose to spend four sessions with the club getting to know the children before seeking the consent to participate. During this time, I was able to explain the research to them informally and was also able to gauge their understanding of it. This was particularly important because Case 2 had children as young as five years old in it. A different approach to explaining the research to these young children was necessary and the solution was to get the older children in the club to explain it to them. As previously noted, it transpired that this was successful.

9.8 Conclusion

In this section of Chapter 9, I explained the themes that presented dilemmas during the data analysis phase because they did not fit with expectations informed by previous research and the participatory consciousness developed during the various phases of this research. To elucidate these findings an in-depth constant comparison method was employed, in some instances this involved cross case comparisons whilst in other instances a more detailed within case comparison sufficed to elucidate the findings.

In the next chapter, I link the themes and dilemmas arising from both sections of this chapter to the literature reviewed for this research. I also suggest other literature that might inform future research in this arena.

Chapter 10

Discussion and Implications

In this chapter, I link the literature on action competence and citizenship education to the themes and dilemmas (in other words the findings) that emerge from the analysis. The literature review for this research does not prefigure the findings that emerge from the data collection and analysis phases. These findings were not anticipated, as there was no research that specifically addressed the research question:

> How might participation in primary school eco clubs contribute to children's developing action-competence-associated attributes?

Nonetheless, trends in the literature can be identified that may elucidate some of the findings and suggest future directions for identifying other relevant literature.

Hence, this chapter takes the shape of a retrospective literature review, restructuring and revisiting the literature previously addressed to facilitate an understanding of the findings in Chapters 9. It also introduces some new literature to elucidate these findings. In so doing, this chapter represents a synthesis of the themes and dilemmas that arose from the analysis with the relevant literature.

I start with the themes from Chapter 9.2 and 9.3 where each case is analysed separately and follow this with the themes and dilemmas that from Chapter 9.7, the cross-case comparison. The themes and dilemmas are treated as findings in this chapter and form the sections of the chapter. In some cases, the findings refer to just one theme or dilemma while in other cases they refer to amalgamated themes and dilemmas. It is worth noting that I do not return to the issues of informed consent and researcher effect, deeming that these have been sufficiently dealt with in Chapter 9.2 and 9.3.

10.1 Group work

In action competence (as in citizenship education) working in conjunction with others is identified as integral to the development process that participants undergo (Jensen and Schnack, 1997; Maitless and Deuchar, 2006). This is clear in the following definition of action competence as a 'capability – based on critical thinking and incomplete knowledge – to involve oneself as a person with other persons in responsible actions and counter-actions for a more humane world.' Karsten Schnack, a progenitor of the action competence approach, put forward this definition at a conference on action competence held in March 2011.

Jensen and Schnack (1997) talk about the concept of collective experiences that are the result of collective actions as being a 'key notion' to the development of action competence (p. 177). They refer to the fact that people, acting separately, do things that are similar (common actions) and have common experiences. However, for the development of action competence (they suggest) there is a need for collective action and collective experience. To be collective, action and experience have to be the outcome of togetherness. This collective experience they posit as the basis of a functioning democracy. This is in line with the conceptualisation of democracy as a 'particular mode of human togetherness' posited by Biesta (2012; p. 152). However, the word collective as used here is problematic because it does not necessarily imply the need for children to work together, to collaborate (or not) to achieve a purpose. It is does not sufficiently distinguish these actions carried out together from common actions (the same actions taken separately by individuals) which is the intention of the authors here. The distinction between common and collective is simply that the collective actions are done at the same time in the same place, whereas common actions are those actions that many people do but not together at the same time. Perhaps a better term here would be interactive rather than collective actions. However, this leads to further problems because the intention of the authors is to show that collective actions result in collective experiences which they put forward as the basis of a functioning democracy. Experiences of interaction makes sense; interactive experiences does not, however, as these are not what the authors (or Biesta) are referring to when they talk about the basis of a functioning democracy. It is the shared nature of these experiences, not the fact that they have experience of interaction that makes the difference. Perhaps

better terminology would be 'interactive actions leading to shared experiences are the basis of functioning democracy' because they define that particular mode of human togetherness that Biesta (2012; p. 152) is getting at. Another way of putting it would be to talk about common experiences interactively acquired. A futher option would be to talk about collaborative actions. This is useful because it implies the action of working together as well as interacting. This is perhaps the best option and leaves us with 'collaborative actions leading to shared experiences'.

Setting aside issues of terminology, research in action competence (Breiting et al, 2009) and citizenship education (e.g. Maitles and Deuchar, 2006) suggests that children themselves prefer working in groups as a means of achieving the ends of education in these fields. In some schools, citizenship education is seen as a good opportunity to develop children's group work skills (See Ofsted, 2006). It is clear that group work in such informal settings is a useful and popular approach. Building on these findings, this research suggests how group work might be managed to maximise its potential for developing children's action-competence-associated attributes. One way of doing this is to look at the arrangements of groups in the eco club and this is discussed in the next section.

10.2.1 Group Arrangements

Varying group arrangement affords opportunities for the development of a greater range of attributes.

Oldpath Eco Club constituted a group of between thirteen and fifteen children. St Teresa's Eco Club comprised a group of twenty children (although none of the meetings I attended had more than twelve participants and most sessions were attended by between five and ten participants).

What emerged from Case 1 in this research was that group work of different arrangements (i.e. whole group, sub-group and individual), afforded opportunities for the development of different kinds of action-competence-associated attributes. For example, whole group arrangements afforded opportunities for the development of more of the attributes in the experiential understanding and

knowledge sets; sub group arrangements afforded opportunities for the development of more of the attributes in the skills set. Individual work (which usually involved the kind of common (or parallel) activities referred to by Jensen and Schnack (1997) and described above, was the least effective at eliciting opportunities for developing attributes in any of the sets.

Comparing this with the work in Case 2 where whole group work predominated, leads to the conclusion that different arrangements of children into individual, sub group and whole group arrangements may afford opportunities for the development of a greater range of action-competence-associated attributes. However, this suggestion should be evaluated against the context of the club. If the purpose of the club were to develop an herb garden, then varying the group arrangements would be unproductive and might hinder the completion of the task.

10.2.2 Group Focus

Different foci result in the development of different action-competence-associated attributes.

Group focus emerged as a theme in Case 1 that influenced the action-competence-associated attributes for which opportunities for development were afforded. In Case 1, the foci of whole group and sub group work varied.

10.2.2.1 Whole Group

Whole group work in Case 1 was discussion-based. The discussions fitted into three subthemes based on the subject or purpose of the discussion as follows: controversial issue-, planning- or plenary-based. These different subthemes had different influences on the kinds of attributes that emerged. The influence of different foci in whole group discussions is, on the whole, missing from the environmental education and citizenship education literature reviewed for this research. Ohman and Ostman (2012) and Lundegard and Wickman (2007) address issues of discussion and group discussion in EE/ESD around consensus and conflicts of interest. Lundegard and Wickman link their findings to action competence through the development of associated skills supportive of action. However, Lundegard and Wickman's work is not founded on whole group discussions. Chawla and Flanders Cushing (2007) talk about the development of

collective competence through group work. They describe discussion as the 'lifeblood of group dynamics' (p. 445). In their work, they suggest the need to make time for discussion of environmental issues. This idea of collective competence might (for reasons explained earlier) better be termed as shared competence; notwithstanding, it has some resonance with these findings.

There is some literature on the impact of different group discussion foci in other areas of Education. For example, Murphy et al. (2009) provide a comprehensive review of this literature in the area of reading comprehension. They make links between different kinds of discussion and the development of critical thinking skills, for example. This has some resonance with the outcomes of this research. In the next section, the different themes are discussed separately.

The handling of controversial issues in eco clubs affords opportunities for the development of action-competence-associated attributes.

Controversial issues have been a part of EE/ESD from a very early stage in the evolution of the field. The need to engage with plural rationalities underpins this situation (Schwartz and Thompson, 1990; Gough and Scott, 2003). The form this controversy takes might arise from questions about the integrity of the evidence for the environmental issue (e.g. biodiversity loss e.g. Gayford, 2000) or climate change. Another source of controversy arises from regarding environmental issues as founded in society. As such, different people bring different values to debates about environmental issues; hence controversy is a likely outcome. Lousley (1999) researches controversial issues around student activism in eco clubs. In the action competence approach, controversial issues are cast as conflicts of interest and are explored in depth in the MUVIN project (2009). Lundegard and Wickman (2007) also make a link between conflict of interest and environmental education in the action competence approach. For them the dialogue that is born out of conflicts of interest is an essential element of the learning that takes place in the context of EE/ESD. Ohman and Ohman (2012) corroborate this position from their work on consensus discussions in EE/ESD in secondary schools in Sweden. Hence, there is a significant body of literature in EE/ESD about controversial issues that is relevant to this research.

Controversial issues are also a subject of research in citizenship education (Costello, 1995; McLaughlin, 2003; Maitles and Deuchar, 2006; Osler and Starkey 2006; Deuchar, 2009). In fact, the teaching of controversial issues is a requirement of the citizenship curriculum at secondary schools (Oulton et al., 2004).

Oulton et al. (2004) make an explicit link between citizenship education and EE/ESD in their paper on controversial issues. By identifying EE/ESD in the curriculum as an element of citizenship education and emphasising the controversy inherent in EE/ESD they suggest that EE/ESD is a good vehicle for the teaching of controversy as specified by the citizenship curriculum.

Issues that arise from the research into how teachers deal with controversial issues in both fields pertain to teachers' varying competence to cope with controversial issues in classrooms, whether teachers should be neutral or more value-laden and comfortable with expressing their own values in teaching about these issues, teachers' willingness to handle controversy, and so forth.

This research finds that the handling of such issues in whole group discussions in eco clubs affords opportunities for the development of a range of action-competence-associated attributes. These include attributes in the volitional dispositions set (such as engagement and willingness to participate) as well as attributes in the experiential understanding set (such as recounting experiences and willingness to institute change).

This research makes the case for investigating how controversial issues are handled in the arena of eco clubs. It may be that the less formal setting of the eco club empowers teachers and children to talk more openly about such issues. The setting may encourage the development of a more informal relationship between children and teacher that overcomes some of the issues identified by other research (e.g. Oulton et al., 2004). The ability to openly address these issues, may enhance the potential for developing the associated attributes such as critical thinking and willingness to participate. These findings resonate with Chawla and Flanders Cushing's (2007) suggestion that making time for discussion of environmental issues is effective in supporting children in democratic development.

Planning-based discussions are effective at affording opportunities for the development of action-competence-associated attributes, especially when the plans are realised.

Planning as an activity features in the action competence approach (Uzzell, 1994), particularly in the IVAC model outlined in Chapter 2. The first two components of this model (Investigation and Visions) both involve the capacity to make plans. In this model, planning is quite specifically linked to actions. The plans that the children make to enable them to deal with a problem should be implemented. Pupils must act (conceived of as intentional and purposive) on the plans they make. Some attributes that have been identified in the literature that are associated with planning in the action competence approach include envisioning different alternatives for dealing with a problem that the students have identified or planning to institute changes in the school or local community (Jensen, 2004; Simovska, 2007; Carlsson and Simovska, 2012). Carlsson and Simovska's paper makes explicit links between visions (which involve planning for action) and critical thinking.

In environmental education more generally, Chawla and Flanders Cushing (2007) also found that time for discussing plans influences children's individual and collective competence development. The impact of the activity of engaging in planning is also evident in environmental education studies that treat children as research collaborators and in other studies of children's environmental activities (Barratt Hacking et al. 2007a; Mannion and I'Anson, 2004; Mannion, 2005; Blanchet-Cohen, 2007; Schusler et al. 2009).

In research into citizenship education, planning emerges as part of a participatory approach to teaching that involves children in planning lessons and teaching (Ofsted, 2006; Keating et al., 2010).

Although the focus of the literature varies, there is broad consensus that, within boundaries such as ensuring that planning is linked to action (e.g. Jensen, 2004; Mannion, 2005), planning emerges from the literature as an important element of children's participation in EE/ESD.

In this research, the whole group planning-based discussions afforded opportunities for the development of a range of attributes across the four sets (i.e. skills, knowledge, experiential understanding and volitional dispositions); although the attributes in the volitional dispositions set were more commonly implicated. Attributes such as willingness to participate, engagement, confidence and empowerment were all in evidence. This finding emerged more strongly in Case 1 where the planning discussions had a greater range and occurred more frequently. This is in line with the findings of Carlsson and Simovska (2012) who point to the fact that the development of discussion skills seems to be linked to improvements in children's self-confidence and engagement. This emerged even in situations in their research where the action element of the IVAC model was not as strong as it could have been. In their work on the MUVIN project, Breiting *et al*. (2009) also found that the action element of practice in the schools they worked with was not well implemented, yet they found significant improvements in pupils' self-reported confidence in their own influence.

In this research, the action that the children participated in seldom met the stringent requirements of the action competence approach (i.e. that action is purposive and directional). It was far more common for Tic1 to identify a problem for the children to investigate than for the children to suggest a problem themselves. However, the planning-based discussions that the children had were almost invariably associated with attempts to implement the plans. It may be that this association between planning and implementation accounted for the impact on volitional dispositions observed in this data.

The planning-based discussion in Case 2 was not quite so strongly associated with volitional dispositions but the fact that there was only one discussion makes it difficult to compare the two cases. However, it should be noted that the children had previously participated in a similar planning based discussion that had not been linked to implementation. It may be that this influenced their engagement with this task because they may have been disillusioned by the fact that their previous efforts to suggest changes had not been acted on.

It is also noteworthy that the planning session in Case 2 afforded opportunities for the children to exhibit a sense of ownership of the club. This sense of ownership and engagement may strengthen the feeling of shared goals amongst

the group which may in turn impact on the success with which those goals are achieved.

What emerges from this theme is that whole group planning-based discussions in Case 1 afforded opportunities for the development of action-competence-associated attributes. Attributes such as discussion skills were an obvious outcome of these processes and these skills appear to be linked to attributes in the volitional dispositions set. The links between planning and implementation in Case 1 may account for this; the literature on other research suggests that this is likely.

Plenary-based discussions where sharing achievements takes place afford opportunities for the development of action-competence-associated attributes such as empowerment and communication.

In this research, the plenary-based discussions (evident in Case 1 only) were opportunities for club members to share their progress (including their achievements, failures, impacts etc) in the sessions and envisage future directions. The literature reviewed for this research does not identify plenary-based discussions *per se* as a feature of citizenship education or action competence. However, confidence and empowerment and willingness to participate are attributes that are implicated in teaching in both approaches in previous studies in action competence (e.g. Breiting et al. 2009; Carlsson and Simovska, 2012 and Simovska, 2012) and in citizenship education (e.g. Deuchar, 2009; Hoskins et al. 2012).

The plenary discussions in these sessions afforded the children in the club the opportunity to talk about their progress and their thoughts for future directions for the next session and beyond. Chawla and Flanders Cushing (2007; p. 448) talk about how children 'become role models of success for each other' through having opportunities to share achievements. Plenary discussions such as those observed in Case 1 are a good arena for achieving this. In so doing, they afforded opportunities for children to develop their confidence and empowerment. They were also opportunities for the children to develop skills for communicating such as listening and discussion skills.

This research suggests that sharing progress in eco clubs can afford opportunities for students to develop action-competence-associated attributes. This may warrant further investigation as it may be that this is particularly true for children of primary school age.

Group gardening activity afforded opportunities for the development of action-competence-associated attributes especially volitional dispositions.

In Case 2, the focus of the sessions was the construction of the herb garden. This was carried out as a whole group activity. The action-competence-associated attributes that emerged were distributed across the four attribute sets although most commonly arose in the volitional dispositions set (e.g. engagement, volunteering, idea generation). The gardening activity was also particularly significant in eliciting children's previous experiences in gardens in other contexts. Hence, gardening activity was influential in re-actualising experiences.

Gardening activity and outdoor learning has been a subject of much empirical research in EE/ESD. Dillon et al. (2005) and Ofsted's Learning Outside the Classroom (Ofsted, 2008) report point to significant impacts on social skills and well-being, some of which resonate with the findings of this research. Evidence that learning through gardening activity may contribute to volitional dispositions such as engagement and willing participation has been found in research into the role of Garden Organic in the Food for Life partnership (Barratt Hacking et al., 2011). Gayford (2010) finds that practical hands-on activity involved with gardening and food growing in schools has a positive impact on children's motivation for learning. However, it does not feature in the literature on action competence and citizenship education reviewed for this research. This theme points to the fact that group herb gardening activity in an eco club of the kind described in Case 2, may be fertile ground for developing action-competence-associated attributes. Further research is needed in different contexts to explore the mechanisms that drive the development seen here. Moreover, there is a need to identify whether the volitional dispositions identified in this activity in this research can be linked to other attributes in other sets such as willingness to participate in what might be described as political actions such as discussions of controversial issues or willingness to change and improve their local environment. It may be that gardening is not sufficiently 'environmental' to have

the same kind of cross fertilisation effect and that the willingness to participate in the gardening is confined to influencing children willingness to garden.

In this particular club, the children initiated discussions about their school grounds independently during the gardening activity. However, as described later in this chapter, it is likely that this was influenced by their exposure to dissonant approaches to participation. Nevertheless, the development of group dynamics that may be the result of opportunities afforded for developing volitional dispositions through the herb gardening activity, may also be influential here. This finding therefore supports the need to research the complex interplay of these different contextual factors (e.g. the school's approach to environmental education in the curriculum and the buildings, the leadership's approach to environmental issues and so forth). The importance of contextual factors is a view that is supported by Schusler et al. (2009) who point to the need to research the contextual factors of educational settings to understand the influences on children's current and future citizenship.

10.2.2.2 Sub Group

Varying the focus of sub group work increased the inclusiveness and range of opportunities for developing action-competence-associated attributes.

The sub group tasks had three foci namely: activity-based, planning-based and research-based. As explained in Chapter 9, there was sometimes some overlap between the three tasks. For example, research-based tasks were often also planning-based tasks. The findings for the sub group, planning-based tasks were very similar to those for the whole group tasks and the same literature is therefore relevant. Analysis at the individual level was not carried out for this research as it was deemed beyond the scope of the question. However, it is worth noting that sub group tasks afforded opportunities for children who might have been reticent to speak in whole groups, to contribute to discussions. Hence, inclusion of sub group work in eco club sessions can increase the inclusiveness of the opportunities for development of action-competence-associated attributes. Sub group planning- and research-based tasks also afforded opportunities for the

development of leadership skills that were not evinced in whole group discussion-based tasks.

The literature on action competence and citizenship education does not explicitly address group size as enabling or disabling in the development of action-competence-associated attributes. However, it is reasonable to assume that the group work that is referred to in the literature (e.g. Ofsted, 2006; Maitles and Deuchar, 2006; Keating et al., 2010) is small groups of children working together that are similar in size to the sub groups (between two and six individuals) referred to in this research. Beyond the literature mentioned already in this chapter there is in not much research into the mode of working in groups in environmental education and in citizenship education. The concept of group work is well developed in educational research more generally and in other disciplines such as psychology and sociology. This research suggests that drawing on the research on group work in these other fields and disciplines may prove to be informative, facilitating and supporting the process of developing skills such as teamwork, leadership and reflection that were observed in this research.

Of the three sub group task foci, the research- and planning-based tasks afforded opportunities for developing skills for checking the reliability of knowledge. The activity-based tasks developed a slightly larger range of attributes across all four sets of attributes (i.e. skills, knowledge, experiential understanding and volitional dispositions) including opportunities for developing communication skills such as writing letters and blogs. There was, in fact not much to differentiate between the three foci in terms of the types and range of attributes that were implicated. Nonetheless, the case for including a range of activities remains strong as different children will benefit from different activities. As mentioned earlier, individual differences were not analysed for this research. However, it should be noted that these differences did exist and an awareness of them increases the potential for the eco club to be inclusive and responsive to all of its members. Through having a range of foci and group arrangements the club can respond to as many of its members as possible; hence affording opportunities for the development of action-competence-associated attributes to more of its members.

10.2 Participation

The concept of participation in primary school eco clubs is complex and multi-layered and affected by contextual factors. A tokenistic/genuine categorisation is misleading and simplistic.

Participation in this research had three instantiations. Firstly, participation was about how the children engaged with the activities in the club. For this a very simple definition of participation was applied that was adopted by Biesta (2011) from Dewey's work. Participation in this sense is about how children interacted such that their interaction resulted in a modification to their activity or their interaction. In other words, the outcome of the activity was affected by the child's involvement in it. This is quite a loose definition of the term. For me, listening is a participatory activity. The speaker who is listened to has a different perception of involvement in an activity than the speaker who is ignored. Of course, it is difficult for anyone other than the listener to judge whether listening is taking place, however the fact remains that listening is influential in a conversation. Hence listening is an example of participation because it modifies the outcome of the activity for the other participants as well as for the listener. In terms of the analytical framework, participation was coded as the volitional disposition: willingness to participate. This is somewhat removed from the definition given above. It is difficult to ascertain a link between willingness to participate and modification of the outcome of the activity. However, willingness to participate indicates the participant's willingness to at least try to modify the activity and this was deemed to be sufficient for the purposes of this research. In this instantiation, the theme of participation has been discussed in Chapter 9 with regard to teacher motivation and dissonant approaches to participation.

What the data suggest regarding teacher motivation and dissonant approaches to participation is that a nuanced understanding of how participation manifests itself is necessary. Roger Hart's (1998) 'ladder of participation' and Shier's (2001) 'pathways to participation' are useful starting points for thinking about participation from the practitioner's perspective. In fact, Roger Hart himself states that that is what the model was originally designed to do (Hart, R., 2008). However, there is a need to move beyond these and think about for example,

what messages children get from dissonant voices and how teacher motivation influences willingness to participate. In this endeavour, heeding Biesta and colleagues (Lawy and Biesta, 2006; Biesta et al, 2009; and Biesta, 2012) and Schusler et al. (2009) who suggest that context is an important enabler and/or disabler of citizenship activity is helpful. Understanding the context in which the children function can help to elucidate their willingness to participate in and engage with activities in eco clubs. The work of Cooke and Kothari (2001) on the way in which participation is manifested in institutions where power differentials abound may also be useful. Paul Hart (2000; 2008) reports on a large-scale qualitative research study in Canadian elementary schools where he makes some comments on participation that support this view of the complexities of participation. He suggests that discounting activities such as recycling as superficial and tokenistic risks ignoring the children's learning that nevertheless occurs.

The concept put forward by Lawy and Biesta (2006) of a conceptualisation of citizenship as citizenship-as-practice seems particularly powerful here. It has the potential to elucidate how children negotiate the sometimes-conflicting messages they encounter in the different arenas of their lives. Biesta (2011) later developed this idea into citizenship as subjectification. This subjectifying citizenship is what may fuel children's drive to participate as both current and future citizens. (This idea has been reviewed in Chapter 2.) In Case 2, the headteacher's point in the following statement about the potential of eco clubs to fuel democracy is particularly striking:

…`an eco club gives the children the opportunity to be angry or discontented which is a very important need in our society in order to change things. I think they need to feel that things aren't right. To um… to have a generation that is completely content and doesn't want to change to me is not healthy. But to have a generation that is kind of… is thinking "this is wrong and I am angry about that" and that want to use the democracy that we have to change this'

Headteacher, Case 2

In this statement, she encapsulates the two versions of citizenship that Biesta discusses. The 'completely contented' generation is consistent with citizenship as socialisation while the generation able to identify wrongs and ready to try to

change them is consistent with citizenship through subjectification. Moreover, children falling into the latter type might also be described as approaching action competence in their ability to identify problems and their willingness to engage with change.

Secondly, participation underpinned the methodology of this research through its association with epistemology (Hart, 2008a). Data was generated through a process that aimed towards achieving participatory consciousness. As explained elsewhere, this entails the temporary suspension of preconceptions to embed oneself in action with the participants (Heshusius, 1994). Although it was difficult to achieve what Heshusius sets out as the ideal of participatory consciousness, in aiming towards it the data generated here adhered to the ethical principles of treating children as both current and future citizens. In assuming that valid data would be generated by participating with them in their world, I manifested my commitment to the treatment of children as research participants. By contrast, if I had taken an approach that involved manipulating the situation to measure some outcome then I would have been setting myself up in a position of authority with the right to manipulate their lives for my own purposes. The fact that the data generated through this process provided a plethora of emerging findings (some of which it has not even been possible yet to address), suggests that the approach taken was also epistemologically fruitful. In terms of a pragmatic philosophy, the fact that the approach worked because it enabled a solid answer to the question to be revealed, confirms its validity in this context. The ethical approach taken in this research is intertwined with this instantiation of participation as participatory consciousness. In Chapter 4 I outline how trends in research with children emphasise the importance of treating children as participants in research rather than subjects of research (e.g. Aldreson, 2005; Barratt Hacking et al. 2007a; Woodhead and Faulkner, 2008; Conroy and Harcourt, 2009). In the adoption of the transactional methodology where knowledge is generated through participation in the activities with the children, this research follows that trend.

Thirdly, some researchers in citizenship education highlight the significance of attending to children's current citizenship (Biesta, et al., 2009; Biesta, 2012) as a means of understanding children's citizenship both currently and in the future.

This research responds to the need to investigate children's current participation as citizens in the context of their everyday lives. The commonplace nature of eco clubs in schools in England make them influential in a very large number of young people's lives; hence an understanding of their potential impact will make a significant contribution to the understanding of how children experience citizenship in their everyday lives. By participating with them in this situation, this research was able to ascertain some of these influences in contextually bounded cases.

10.3 Teacher motivation

High teacher motivation has the potential for both positive and negative impacts on the development of action-competence-associated attributes.

In a study in primary schools, Hunt (2012) surveyed teaching and leadership staff about global learning in their institutions. She found that the category 'motivated teachers' was the most frequently selected enabling factor supportive of global learning. Chawla, (1999), Blanchet-Cohen (2008) and Gayford, (2010) all point to the positive impact that an adult role model (including teachers) can have on a child's engagement with environmental issues. The study mentioned earlier by Paul Hart and colleagues (Hart, 2000) focuses on teachers' motivations for engaging with environmental education projects; linking these to their moral norms and values, and raising questions about how children make meaning of their experiences. This study concludes that teacher motivation is an aspect of children's competence.

It seems probable that a motivated teacher will have a positive impact on students' development of attributes. It is likely that motivation might (but does not always) lead to an intensified search for knowledge and understanding and that this might (but does not always) lead to increased knowledge and understanding. A motivated teacher more knowledgeable about environmental issues and challenges is therefore more likely to be able to make a wider range of opportunities available to her students thus affording more opportunities for children to develop action-competence-associated attributes. In this research, it was clear that the more motivated (and more knowledgeable) teacher (Tic1 in Case 1) was able to offer more opportunities to her students to develop a wider

range of action-competence-associated attributes than the less motivated (and less knowledgeable) teacher (Tic2 in Case 2).

What this research suggests is that this tendency does not follow for all action-competence-associated attributes. As I discuss in Chapter 9, attributes such as child initiated direction were markedly lacking in Case 1 despite the fact that children were actively encouraged to suggest ideas and were given space and opportunities to do so. In contrast, in Case 2 where they were not encouraged to suggest ideas for the way the club should develop, they actively created opportunities for themselves to do so. This raises some questions about the nature of the impact of teacher motivation on the children's willingness to participate at the level of determining the direction of the club's development. These questions may be relevant to other situations such as curricular activities. It is possible that children may be less likely to feel able to suggest ideas if they consider their teacher to be highly capable, in relation to, and motivated by, environmental issues. They may feel daunted by the teacher's superior knowledge and understanding. They may feel unable to have a genuine influence as they may feel that the teacher already has a clear agenda and direction in mind, hence any suggestions they make may not be acted on. In Tic1's case, it is plausible that her children have identified that she already knows what she wants to achieve and therefore they feel disinclined / unable to participate at the directional level, even though they may want (i.e. be motivated) to. It is possible that, in being motivated and having a clear strategy, she unwittingly closes off opportunities for the children to contribute, despite the fact that she makes physical space (i.e. provides time in the sessions) for the children to suggest possible directions for the club to take. The converse may also be true.

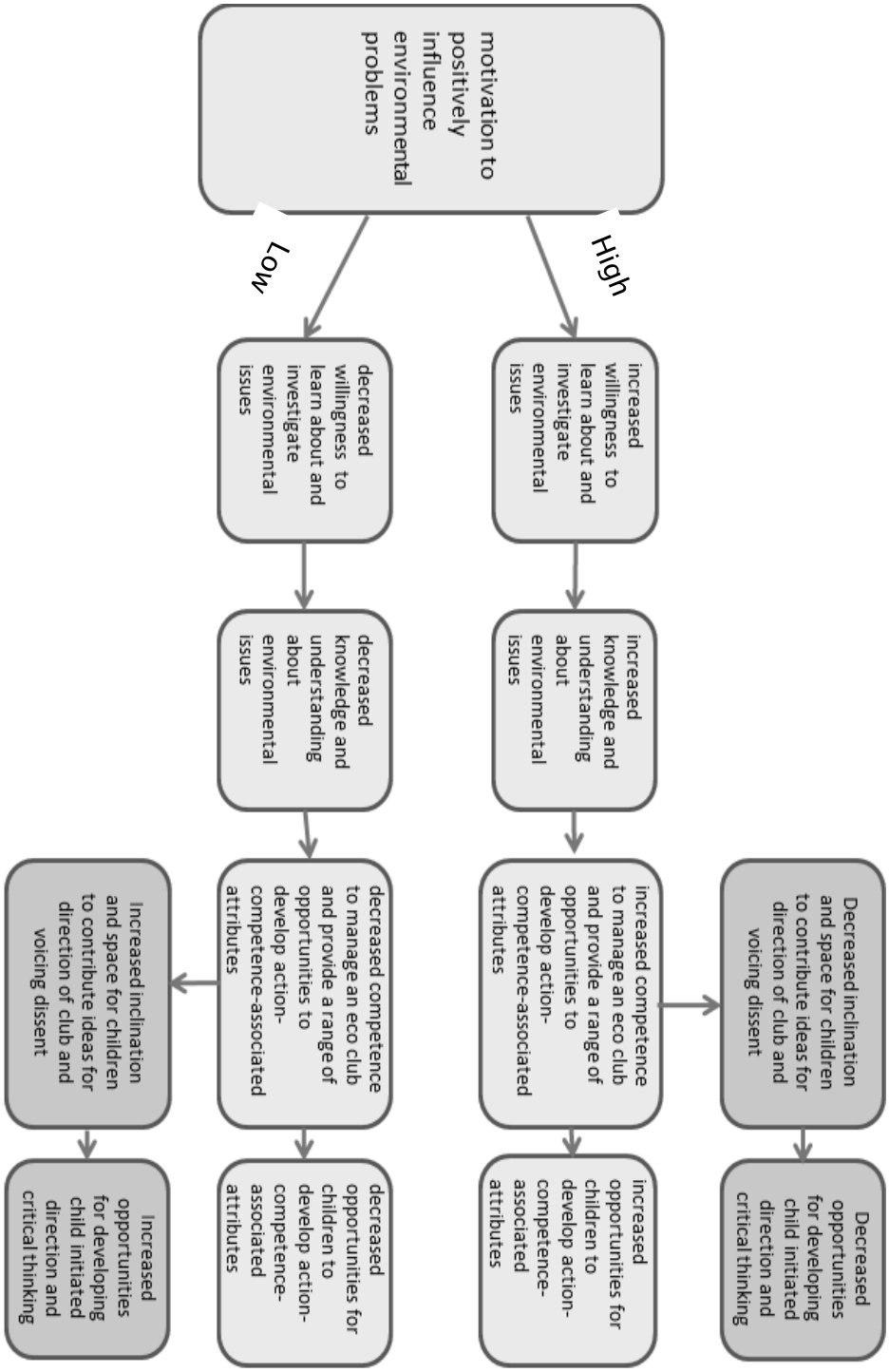
In situations where a teacher has less knowledge and understanding of environmental issues children may be more inclined to suggest ideas and direction. This may be the outcome of a feeling of being more competent and able than the teacher her/himself leading to greater inclination to engage at this directional level. It may be that the teacher with less knowledge and understanding unwittingly opens up opportunities for children to contribute, even when she does not provide physical space for them to do so. The teacher's lack of direction and strategy opens up opportunities for children who are otherwise

(at a broader school-wide level) supported to participate and suggest future directions.

The level of motivation of the teacher has the impact of either opening up space (less motivated teacher) or closing down space (more motivated teacher) for participation to occur. This influences the kinds of attributes for which opportunities for development arise.

Figure 10.1 below illustrates the relationship between high motivation and action-competence-associated attributes alongside the dilemma discussed above and in Chapter 9.7.3.2. It should be noted that I do not wish to suggest an unequivocal link from one state to the next, but this research and the other research discussed above does suggest the possibility of such tendencies.

Figure 10.1 - To show a possible relationship between teacher motivation and action-competence-associated attributes



Berlin (1969) comments on the fact that 'all but a few thinkers hold that all that is good must be intimately connected, or at least compatible with one another'. In his case, he is referring to the way in which John Stuart Mill contests that creative thinking (or genius) is only possible in the context of liberated societies. However, the idea is pertinent here. *Critical thinking* and *child initiated leadership* were evident in Case 1 despite the fact that these attributes were actively discouraged. Is the suppression of it what enabled it to develop? I do not want to suggest that teachers should be encouraged to suppress children's participative and critical thinking skills in the hopes that it will have the opposite effect. However, it is worth considering that situations that at first may not seem ideal in terms of the development of action-competence-associated attributes might not, in fact, be as negative as they at first appear. At the very least, this finding warrants further investigation to ascertain whether it is valid in different contexts.

10.4 Implications of the findings

The findings of this research have a number of significant implications for both theory and practice. At the theoretical level the findings have implications for action competence theory, for citizenship education and for learning as participation in environmental education. At the practical level these findings have implications for how eco clubs in schools are managed, for how teachers and children interact in these settings and for the understanding of the significance of context in framing the experiences of eco club members.

10.4.1 Implications of the theoretical contribution

10.4.1.1 The ignorant school teacher

Biesta's (2011) notion of the ignorant citizen is particularly pertinent as a lens through which to look at the findings regarding the influence of teacher motivation outlined in section 10.3 above. He uses this term to refer to the way in which the citizen participates in a democracy without knowing what a good citizen is (or should be). So the individual's citizenship is about what they do and how they influence the politics of the situations in which they exist. It is not about how they conform to a predetermined blueprint of what a citizen should aspire to be.

The fact that both teachers are ignorant of the influence that they are having through their motivation (or lack thereof) on the development of particular attributes might be considered in this light. Is it in fact their very ignorance that results in their influence? It may be that awareness of and conscious effort to develop the attributes (critical thinking and child initiated direction) would be less likely to produce the results that were evident in these instances. Conscious effort to develop particular attributes would be very much in line with what Biesta (2011) characterises as the socialisation approach to citizenship education whilst what is taking place in these examples is more akin to what he describes as citizenship through subjectification.

Taking this position towards the data raises a number of other questions. The fact that the teacher who is less motivated (Tic2) has a greater impact on the development of some attributes suggests that her ignorance is having a beneficial impact on some aspects of the children's development. To elaborate on this point it is worth returning to Figure 10.1 (p. 317). This figure suggests a potential link between lack of motivation and knowledge of environmental matters or, put differently, ignorance of what a model citizen should know; or as Biesta describes it, citizenship through socialisation. These data therefore provide some empirical evidence for the notion that citizenship through subjectification is effective at enabling learners to develop appropriate attributes through their participation in everyday activities. The children in this case develop through the experience of handling her lack of experience and her genuine lack of direction.

However, the question raised here is whether or not the researcher should inform either teacher of the influence that they are having. In informing them would the researcher compromise future development of this kind? Or do the guidelines of the ethics of research suggest that this would be an unethical approach to take?

The fact that the teacher in Case 2 is also a part-time, newly qualified teacher is a factor that should be considered in any decision about whether to try to inform her of her influence. It is possible that in informing her the beneficial aspects of this influence will be diminished. It may be that as she develops as a teacher her knowledge of and commitment to environmental issues also develops. As she

becomes more aware of what she can achieve her impact develops as well. In fact, it is likely that involvement with this research has already had some influence on this aspect of her teaching practice. The reflections generated by the interview that I had with her are one manifestation of this point. Thus the likelihood is that over the course of her career her influence will change naturally and the outcome of this will be that she will encourage or inhibit the development of different attributes at different points in her career as a teacher.

Her counterpart however, (Tic1) may benefit from knowledge of her own influence. She may be able to alleviate the impact of her high levels of motivation through drawing on her richer experience of both education in general and environmental education in particular. Her status as a teacher with more experience as well as a prior career puts her in a position to be able to handle the knowledge of her own influence and to modify it without losing any of its many and varied positive aspects.

The decision to inform one teacher and not to inform another is an ethical one and perhaps not the provenance of a researcher such as me. Moreover, the purpose of the research is to generate findings for the broader community of researchers and practitioners and not to have a specific influence on the two teachers involved in the research. The research is about generating new knowledge to respond to a problem; not about changing the behaviour of the participants.

In deciding not to try to influence these teachers' behaviour through informing them of these aspects of the research I am able to respond to the need to study children's everyday experiences of citizenship (Biesta, 2011) and contribute knowledge at the level of the research community without attempting to manipulate (or socialise) how that takes place and hence I remain true to the principles that underpin my ontological position.

A finding suggested by this discussion is that exposure to teachers at different stages of their career with different levels of commitment and different ideas about what matters in life provides a broader range of opportunities for school children to develop. Thus the situation found in most schools where children are exposed to teachers with these differences in their characteristics can be seen to have a positive, subjectifying influence in the way that Biesta describes.

These findings and their implications link back to the commitment to a liberal education in England that takes as a starting point the emancipation of individuals to be critical and reflective and to participate willingly in society. Teachers in a liberal education system have the freedom to express their own opinions and to live out both their expertise and their fallibilities through their engagement with children. Children have the freedom to learn from these, to take away from their experiences what is significant to their way of life, what matters to them in the moment of the experience. They have the freedom to shape and be shaped by these experiences. The fact of the ignorance of the model citizen they are expected to aspire to be is what gives them the freedom to develop and the inspiration to be active as both current and future citizens. Hence this research provides support for the continued commitment to a system of liberal education that enables the emancipation of individuals though a process of learning that extends beyond the walls of the classroom into the daily lives of the individuals it serves.

10.4.1.2 Action competence theory

The findings of this research have a number of implications for the action competence approach.

The action competence literature reviewed for this research identified a discrepancy in the way the term action competence is understood and, consequently how it is applied. This discrepancy was described in terms of whether or not action competence can be treated as an aspect of an individual's character. One camp within the progenitors and adopters of the concept, treat action competence as something that individuals can possess (akin to having determination or commitment) as a characteristic of their personality (e.g. Carlsson and Simovska, 2012). The other camp treats action competence as an ideal that is contingent and contextual akin to enlightenment (e.g. Mogensen and Schnack, 2010). In this latter conceptualisation action competence is something that emerges in the interactions between people or between people and the elements of their surroundings. This latter conceptualisation concords with the methodological and epistemological underpinnings of this research. It is also

concordant with the conceptualisation of democracy held by this research that is inspired by Biesta (2010a; 2011).

This discrepancy issue remains unresolved. Recent papers that refer to action competence do not address this discord but use the theory in such a way as to get around the problem (e.g. Almers, 2013). It is not the scope of this research to resolve this. The aim of this research is to demonstrate the usefulness of the action competence approach and research to the development and acquisition of attributes associated with active citizenship in English primary schools. To achieve this it is possible and necessary to separate out the useful parts of the associated literature and research. This can be achieved without being compromised by the discord I have identified. To be clear, I think that this problem has to be resolved if the research that continues to emerge is to be taken seriously and is to be adequately understood. But for the purposes of this research I have chosen to develop the following term: 'action-competence-associated attributes'. I think that as this allows me to work with the research in such a way that both acknowledges the problem and addresses it adequately for use here. It might be claimed that this approach of adopting 'action-competence-associated attributes' represents a reconciliation between the two camps which makes it possible for the body of literature associated with action competence to be useful without being compromised by this discrepancy. It remains to be seen if this approach might also be useful for other researchers. Nonetheless, in setting out this problem, this research aims to encourage other academics to consider how the action competence approach is best understood so that coherence within the work of the progenitors and adopters can be attained.

10.4.1.3 Action Competence and Citizenship Education: a framework for analysis

The data analysed for this research did not meet the requirements of a programme of learning designed with action competence in mind. In fact, action competence was not familiar to the participants in the cases (i.e. the eco clubs) or the stakeholders of the schools. The researcher, not the participants, made the links to action competence. This link was arrived at through citizenship education and the attributes commonly associated with active citizenship. The attributes associated with active citizenship were shown, through a review of the literature, to be analogous to those associated with action competence. These

overlapping attributes were labelled action-competence-associated attributes. The action-competence-associated attributes were used to devise a (theory-led) framework for analysing the data collected from the eco clubs. The framework was modified during the analytical process to account for categories arising from the data.

In so doing, this research posits how the research and findings underpinning the developmental work framed by the action competence approach might be useful in situations where the action competence approach to teaching was not employed. Thus, this research has provided one answer to a call put forward at a PhD course in March 2011 for the development of the concept as an analytical approach (PhD course: Action Competence in Heath/Environmental Education and Education for Sustainable Development Revisited: Theoretical, Analytical and Empirical Perspectives; 23-25 March, 2011; Aarhus University in Denmark)

10.4.2 Implications of the Epistemological Contribution - participation, transaction, knowledge, reality

In terms of an understanding of what constitutes knowledge, this research develops the work of Hart (2008) and Heshusius (1994) about how participation enables the development of knowledge and understanding about a research topic. By linking this to the transactional methodology developed by Ohman and Ostman (2007) from Dewey's work, this research makes a link between two hitherto disconnected but concordant research approaches. Drawing on Gough and Stables' (2011) conceptualisation of pragmatic philosophy, this research adds a further dimension in this order: pragmatic ontology -> participatory epistemology -> transactional methodology. In broadening and developing the way in which participation is understood and applied, this research also makes a theoretical contribution as an adjunct to the epistemological contribution.

10.4.3 Implications at an Ethical Level

Drawing on researchers such as Heshusius (1994) and Carter and Little (2007) this research proposes that ethics should be seen as intertwined with epistemology in that the epistemology should be inherently ethical. This should

be the case at the level of designing the research strategy, at the level of carrying out the research, during data analysis, and at the level of applying the findings in different situations. As such, epistemology in this research is understood as an ethical construct and the implications of this approach are a more nuanced understanding and treatment of both ethics and epistemology in future research of this kind.

10.4.4 Implications at a Methodological Level

Model 1 proposed in Chapter 3 is a significant development of Maxwell's (1996) interactive model of research design through the addition of an ethical dimension. The implication of this re-purposing of Maxwell's model in this way as a model of methodology and linking it to the transactional approach as interpreted by Ohman and Ostman (2007) is a more developed understanding of methodology in Education.

10.4.5 Implications for Practitioners

By providing evidence of the potential impact that participation in primary school eco clubs can have on children's developing action-competence-associated attributes, the findings from this research may support teachers and school leaders who are searching for ways in which to meet the requirements of the non-statutory framework of citizenship education in primary schools. Seen alongside the conceptualisation of democracy as subjectification, this research has the potential to enable schools to contribute to the development of democracy in England.

10.4.6 Managing Eco Clubs and the Influence of Context

The research question 'How might participation in primary school eco clubs contribute to children's developing action-competence-associated attributes?' can be answered quite simply at a fundamental level. Participation in eco clubs affords opportunities for the development of action-competence-associated attributes by creating situations in which, through their participation, children actualise the necessary attributes; that is, they draw on the critical thinking skills to question their peers' opinions or they draw on their self-confidence to talk

about the issues in a whole group activity. It is the actualisation of these attributes that entails the potential for their development.

However, this very basic response to the question could have been arrived at without doing any fieldwork. What the fieldwork in this research identified was how contextual factors within the club and more broadly within the school, influenced the contribution that participation in eco clubs made to children's developing action-competence-associated attributes. As explained in Chapter 9, at the club level these factors included group arrangement, task focus, teacher motivation, teacher competence and group management. At the school level these factors included leadership support and attitudes to features such as student voice and participation.

The importance of contextual factors was emphasised by the fact that different outcomes were identified for the two different clubs in different contexts. These findings therefore constitute one response to Uzzell (1999), Chawla and Flanders Cushing (2007), Blanchet-Cohen (2008), Biesta et al. (2009) and Schusler (2009) who, variously, call on researchers to attend to contextual factors in research in the fields of environmental education and citizenship education.

However, this research left a number of contextual factors unexplored and unexamined. For example, it did not investigate the impact of community factors such as local environmental issues or parental involvement. Other research has suggested that the community local to the school including the parental community can have an influence on the development of action competence (e.g. Uzzell, 1994; Jensen, 2002; Breiting et al., 2009).

This research also did not explore the impact of different individual child participants on the kinds of opportunities that emerged. The identities of the children themselves may have had an influence in an upwards direction (from child to club) on the opportunities that arose within the club. The identities of the children may also have had an impact on the opportunities that they may have benefitted from personally (in a downwards direction from club to child). The child here is both embedded agent and removed agent. This is in line with Hoskins et al.'s (2012) interpretation of identity as learning as becoming which

draws on Lave and Wenger's communities of practice theory. These points are also consistent with ideas about structure and agency explored in depth in the literature in education and more specifically, in EE/ESD (e.g. Blanchet-Cohen, 2007; Hayward, 2012).

Moreover, the influence of the child's participation on the club's functioning is in line with the treatment of children as agentive, which underpins the treatment of children as current and future citizens. It also underpins the research on participation in environmental education reviewed for this research (e.g. Mannion and I'Anson, 2004; Barratt Hacking *et al*., 2007; Hart, 2008).

However, the philosophy underpinning the transactional methodology adopted in this research precluded any possibility of adequately investigating the question from the perspective of the children. To achieve any degree of participatory consciousness from the children's perspective would have necessitated the ability to participate with each child in the activities that were taking place. This would have been complicated by the dynamic nature of group arrangements and children's attendance. Biesta *et al*. (2009) have attempted this level of research through in-depth interviews with young people and their findings suggest that context, relationships and dispositions are influential in determining citizenship learning. This research builds on those findings by investigating one particular context (i.e. the eco club at the school). The use of participant observation is both contingent on this focus and a determinant of it.

The implications of this finding about the significance of contextual factors in determining which action-competence-associated attributes are developed is a practical one. Club members who are aware of the contextual factors under which they are operating have the potential to influence the kinds of outcomes that are achieved in the club. For example, a teacher who wants to develop children's volitional dispositions will have greater success if s/he attends to the internal and external context of the club. Furthermore, these findings provide further evidence for the claims made by to Uzzell (1999), Chawla and Flanders Cushing (2007), Blanchet-Cohen (2008), Biesta *et al*. (2009) and Schusler (2009) about the need to attend to children's everyday experiences if we are to understand how they develop as citizens and if we are to support them to participate in democracy understood as subjectfication.

References

Adams, W.M. (2006). "*The Future of Sustainability: Re-thinking Environment and Development in the Twenty-first Century*." Report of the IUCN Renowned Thinkers Meeting, 29–31 January 2006. Retrieved on: 16/07/2013

Alderson, P. (2005) Designing Ethical Research with Children; In Farrell, A. (Ed) *Ethical Research with Children*; Open University Press

Almers, E., 2013. Pathways to Action Competence for Sustainability—Six Themes. *The Journal of Environmental Education*, 44(2), pp.116–127.

Barratt Hacking, E., Barratt, R. and Scott, W., 2007. Engaging children: research issues around participation and environmental learning. *Environmental Education Research*, 13(4), pp.529-544.

Barratt, R. and Barratt Hacking, E. 2008. In A. Reid, B.B. Jensen, J. Nikel, and V.Simovska Eds. *Participation and learning : perspectives on education and the environment, health and sustainability*, [New York]: Springer.

Barratt Hacking, E. C., Scott, W. A. H., and Lee, E. (2010). *Evidence of the Impact of Sustainable Schools*. London: Department for Children, Schools and Families.

Barratt Hacking, E., Scott, W., Lee, E., (2011) *Food for Life Partnership Evaluation (FFLP) monitoring the impact of the growing skills programme*; Centre for Research in Education and the Environment, University of Bath, Bath

Bentley, A. F. & Dewey, J. (1949/1991) *Knowing and the Known* (LW 16) (Carbondale and Edwardsville, IL, Southern Illinois University Press).

Berlin, I. 1969. *Four Essays on Liberty*. Oxford: Oxford University Press

BERA, 2011. *Ethical Guidelines for Educational Research* [Electronic version]. Available from http://www.bera.ac.uk/publications/Ethical%20Guidelines

Appendix 1

Biesta, G., Lawy, R. and Kelly, N., 2009. Understanding Young People's Citizenship Learning in Everyday Life: The role of contexts, relationships and dispositions. *Education, Citizenship and Social Justice*, 4(1), pp.5–24.

Biesta, G. 2010. How to Exist Politically and Learn from it: Hannah Arendt and the Problem of Democratic Education, *Teachers College Record Volume,* 112(2), pp. 556-575

Biesta, G., 2010a. "This is My Truth, Tell Me Yours". Deconstructive pragmatism as a philosophy for education. *Educational Philosophy and Theory*, 42(7), pp.710–727.

Biesta, G., 2011. The Ignorant Citizen: Mouffe, Rancière, and the Subject of Democratic Education. *Studies in Philosophy and Education*, 30(2), pp.141–153.

Bishop, K. and Scott, W., 1998. Deconstructing Action Competence: developing a case for a more scientifically-attentive environmental education. *Public Understanding of Science* 7, pp. 225-236

Bird, C.M., 2005. How I Stopped Dreading and Learned to Love Transcription. *Qualitative Inquiry*, 11(2), pp. 226–248.

Blanchet-Cohen, N. 2008. Taking a Stance: child agency across the dimensions of early adolescents' environmental involvement. *Environmental Education Research* 14(3), pp. 257–272.

Breiting, S. and Mogensen, F., 1999. Action Competence and Environmental Education. *Cambridge Journal of Education* 29(3), pp.349–353.

Breiting, S. et al., 2009. *Action competence, conflicting interests and environmental education - the MUVIN programme*, Research Programme for Environmental and Health Education, Department of Curriculum Research, DPU (Danish School of Education), Aarhus University, Tuborgvej 164, DK-2400 Copenhagen NV, DENMARK.

Breiting, S., and Wickenberg, P. 2010. The Progressive Development of Environmental Education in Sweden and Denmark. *Environmental Education Research* 16(1), pp. 9–37.

Brown, R., 1988. *Group Processes: dynamics within and between groups*, Oxford: Blackwell.

Bryman, A., 2012. *Social Research Methods* 4th ed., Oxford ; New York: Oxford University Press.

Burnard, P. et al., 2006. Documenting "Possibility Thinking": a journey of collaborative enquiry. *International Journal of Early Years Education* 14(3), pp.243–262.

Carlsson, M., 2009. *Shape Up Research*: Case Study Vienna Franklinstrasse High School, Research Programme for Environmental and Health Education Danish School of Education, Aarhus University.

Carlsson, M. and Sanders, D. 2008., School Councils as an Arena for Pupils' Participation in Collaborative Enviornmental Education Projects., In A. Reid, B.B. Jensen, J. Nikel, and V.Simovska Eds. *Participation and Learning : perspectives on education and the environment, health and sustainability*. New York: Springer.

Carlsson, M. and Simovska, V., 2012. Exploring Learning Outcomes of School-based Health Promotion--a multiple case study. *Health Education Research* 27(3), pp.437–447.

Carr, W., Kemmis, S. and Deakin University. School of Education. Open Campus Program, 1986. *Becoming Critical : education, knowledge and action research*, [Waurn Ponds, Vic.]: Deakin University : Distributed by Deakin University Press.

Carter, S.M. and Little, M., 2007. Justifying Knowledge, Justifying Method, Taking Action: epistemologies, methodologies, and methods in qualitative research. *Qualitative Health Research* 17(10), pp.1316–1328.

Appendix 1

Chatzifotiou, A., 2006. Environmental Education, National Curriculum and Primary School Teachers. Findings of a Research Study in England and Possible Implications upon Education for Sustainable Development. *Curriculum Journal* 17 (4), pp.367–381.

Chawla, L. 1999. Life Paths into Effective Environmental Action. *The Journal of Environmental Education* 31(1), pp.15-26,

Chawla, L. and Cushing, D.F., 2007. Education for Strategic Environmental Behaviour. *Environmental Education Research* 13(4), pp.437–452.

Connell, S., 1997. Empirical-Analytical Methodological Research in Environmental Education: response to a negative trend in methodological and ideological discussions. *Environmental Education Research* 3(2), pp. 117-132

Conroy, H. and Harcourt, D.,2009. Informed Agreement to Participate: beginning the partnership with children in research. *Early Child Development and Care* 179, pp.157-165.

Costello, P.J.M., 1995. 'Education, Citizenship and Critical Thinking'. *Early Child Development and Care* 107, pp. 105–114.

Cremin, T., Burnard, P. and Craft, A., 2006. Pedagogy and Possibility Thinking in the Early Years. *Thinking Skills and Creativity* 1, pp.108–119.

Crick, B., 1998. *Education for Citizenship and the Teaching of Democracy in Schools*. Final report of the advisory group on citizenship. London: Qualifications and Curriculum Authority.

Cunningham, J. and Fitzgerald, E. (1996) Epistemology and Reading. *Reading Research Quarterly* 31(1), pp. 36-60

DCSF, 2007. Sustainable Schools: a brief introduction.

DCSF, 2007. *The National Sustainable Schools Framework: The Eight Doorways*. Downloaded on the 03/08/2013. Available online at

http://www.rm.com/_RMVirtual/Media/Downloads/National_Framework_Sustainable_Schools_poster.pdf

DCFS, 2008. *Working Together: listening to the voices of children and young people*. DCSf Ref: DCFS-00410-2008.

Deuchar, R., 2009. Seen and Heard, and Then Not Heard: Scottish pupils' experience of democratic educational practice during the transition from primary to secondary school. *Oxford Review of Education* 35(1), pp. 23–40

Dewey, J., 1916. *Democracy and Education* In The Middle Works, 1899–1924 (vol. 9) J. A. Boydston (Ed.) John Dewey. Carbondale & Edwardsville: Southern Illinois University Press.

Dewey, J., 1929/1958. *Experience and Nature*. New York: Dover Publications

Dewey, J., 1938. *Experience and Education*. New York: MacMIllan

DfE, 2013. *The National Curriculum for England, Framework document for consultation*. Available online at: www.education.gov.uk/nationalcurriculum. Consulted on 02.04.2013

Dillon, J. and Reid, A., 2004. Issues in Case-Study Methodology in Investigating Environmental and Sustainability Issues in Higher Education: towards a problem-based approach? *Environmental Education Research* 10(1), pp.23–37.

Dillon, J., Morris, M., Reid, A., Rickenson, M. and Scott, W. (2005) Engaging and Learning with the Outdoors – the final report of the outdoor classroom in a rural context action research project. *National Foundation for Education Research.*

Dobson, A. (1996). Environmental Sustainabilities: An analysis and a typology, *Environmental Politics* 5(3), pp.401-28.

Dobson, A., 2003. *Citizenship and the Environment*. Oxford University Press.

Dunne, M., Pryor, J. and Yates, P., 2005. *Becoming a Researcher*. Maidenhead: Open University Press.

Appendix 1

Ernst, J. and Monroe, M., 2004. The Effects of Environment-Based Education on Students' Critical Thinking Skills and Disposition Toward Critical Thinking. *Environmental Education Research* 10(4), pp 507-522

Emmons, K.M. 1997. Perspectives on Environmental Action: Reflection and Revision through Practical Experience. *The Journal of Environmental Education* 29(1), pp. 34-44.

Fawcett, M. 2009. *Learning through Child Observation*. 2nd Edition. London and Philadelphia: Jessica Kingsley Publishers

Foster, J. 2008. *The Sustainability Mirage: illusioKn and reality in the coming war on climate change*. Earthscan

Frazer, E., 2000. Citizenship Education: anti-political culture and political education in Britain. *Political Studies* 48, pp. 88-103

Gayford, C., 2000. Biodiversity Education: a teacher's perspective, *Environmental Education Research* 6(4), pp. 347-361

Gayford, C., 2009. *Learning for Sustainability: the pupil's perspective*. Word Wide Fund for Nature.

Gough, S., 1999. *How Might Environmental Education be Introduced into Programme of Management Education? Exploring the Use of Adaptive Concepts*. Thesis (PhD). The University of Bath, Bath.

Gough, S. 2002. Whose Gap? Whose Mind? plural rationalities and disappearing academics. *Environmental Education Research* 8(3), pp. 273-282.

Gough, S., Scott, W. and Stables, A. 2000. Beyond O'Riordan: balancing anthropocentrism and ecocentrism. *International Research in Geographical and Environmental Educatio*n 9(1), pp. 36-47

Gough, S. and Stables, A., 2012. Interpretation as Adaptation: Education for Survival in Uncertain Times. *Curriculum Inquiry* 42(3), pp. 368-385

Guillemin, M., and Gillam, L., 2004. Ethics, Reflexivity, and "Ethically Important Moments" in Research. *Qualitative Inquiry* 10(2), 261–280.

Halcomb, E.J. and Davidson, P.M., 2006. Is Verbatim Transcription of Interview Data Always Necessary? *Applied Nursing Research* 19, pp. 38-42

Harcourt, D., and J. Sargeant. 2011. The Challenges of Conducting Ethical Research with Children. *Education Inquiry* 2, pp. 421–36.

Hart, P., 2000. Searching for Meaning in Children's Participation in Environmental Education In Jensen, B.B.; Schnack, K. and Simovska, V. (Eds) *Critical Environmental and Health Education*. Denmark: Research Centre for Environmental and Health Education.

Hart, P., 2000a. Requisite variety: the problem with generic guidelines for diverse genres of inquiry. *Environmental Education Research* 6(1), pp. 37-46

Hart, P. 2008. What come before participation? Searching for Meaning in Teachers Constructions of Participatory Learning in Environmental Education In A. Reid, B.B. Jensen, J. Nikel, and V.Simovska (Eds.) *Participation and Learning : perspectives on education and the environment, health and sustainability*. New York: Springer.

Hart, P. 2008a., Elusive Participation: Methodological Challenges in Researching Teaching and Participatory Learning in Environmental Education In A. Reid, B.B. Jensen, J. Nikel, and V.Simovska (Eds.) *Participation and Learning : perspectives on education and the environment, health and sustainability*. New York: Springer.

Hart, R., 1997. *Children's Participation: from tokenism to citizenship*. Florence: UNICEF International Child Development Centre.

Hart, R. and UNICEF., 1997. *Children's Participation : the theory and practice of involving young citizens in community development and environmental care*. London: Earthscan.

Hayward, B., 2012., *Children, Citizenship and Environment: nurturing a democratic imagination in a changing world*. Routledge

Heater, D., 2001. The History of Citizenship Education in England. *Curriculum Journal* 12(1), pp.103–123.

Hehusius, L., 1994. Freeing Ourselves from Objectivity: managing subjectivity or turning towards a participatory mode of consciousness? *Educational Researcher* 23(3), pp. 15-22

Gubrium, J.F. & Holstein, J.A., 2003. *Postmodern Interviewing*. Thousand Oaks: Sage Publications.

Hopkins, C., Damlamian, J. and Lopez Ospinosa, G., 1996. Evolving Towards Education for Sustainable Development: an international perspective. IN W., Scott and S. Gough (Eds) *Key Issues in Sustainable Development and Learning : a critical review*. London and New York: Routledge Falmer

Hoskins, B. Villalba, E, Van Nijlen, D. and Barber, C., 2008. *Measuring Civic Competence in Europe: a composite indicator based on IEA civic education study 1999 for 14 years old in school*. Luxembourg: Office for Official Publications of the European Communities.

Hoskins, B., Janmaat, J.G. and Villalba, E., 2012. Learning Citizenship through Social Participation Outside and Inside School: an international, multilevel study of young people's learning of citizenship. *British Educational Research Journal* 38(3), pp.419–446.

Humbolt, W., von,. c1793. Theory of Bildung Trans. Gillian Horton-Kruger In *Teaching as a Reflective Practice : the German Didaktik tradition*, eds. I Westbury, S. Hopmann, and K. Riquarts, Mahwah, N.J.: L. Erlbaum Associates.

Hunt, F., 2012. *Global Learning in Primary Schools: practices and impacts*. Development Education Research Centre: London

Husen, T. 1997. Research Paradigms in Education In *Educational Research Methodology and Measurement: An International Handbook* (2nd Edition) J.P. Keeves, Pergamon

Hwang, S., 2008. *Teachers' Stories of Environmental Education: blurred boundaries of professionalism, identity and curriculum*. Thesis (Doctor of Philosophy (PhD)). University of Bath

Jackson, L., 2009. *Leading Sustainable Schools: what the research tells us*. WWF, NCSL

James, J.H. and McVay, M., 2008. Critical Literacy for Young Citizens: first graders investigate the first thanksgiving. *Early Childhood Education Journal* 36, pp.347-354.

Jensen, B.B. and Schnack, K., 1997. The Action Competence Approach in Environmental Education. *Environmental Education Research* 3(2), pp.163–178.

Jensen, B.B., 1997. A Case of Two Paradigms within Health Education. *Health Education Research* 12(4), pp. 419–428.

Jensen, B. B. (2000) Participation, Commitment and Knowledge as Components of Students' Action Competence. In B. B. Jensen, K. Schnack, and V. Simovska (Eds.), *Critical Environmental and Health Education—Research Issues and Challenges* (Copenhagen: Danish University of Education), 219–238.

Jensen, B.B., 2002. Knowledge, Action and Pro-environmental Behaviour. *Environmental Education Research* 8(3), pp.325–334.

Jensen, B.B., 2004. Environmental and health education viewed from an action-oriented perspective: a case from Denmark. *Journal of Curriculum Studies* 36(4), pp.405–425.

Katayama, J., 2009. *Theory into Practice in Environmental Education: towards an evidence based approach*. Thesis (PhD). The University of Bath, Bath.

Keating, A. *et al*., 2009. *Embedding Citizenship in Education in Secondary Schools in England (2002-2008).* Citizenship Longitudinal Study Seventh Annual Report.

Keating, A. *et al*., 2010. *Citizenship Education in England 2001-2010: young people's practices and prospects for the future*. The eighth and final report from the Citizenship Education Longitudinal Study (CELS). Available at: http://publications.education.gov.uk/eOrderingDownload/DFE-RB059.pdf.

Keep Britain Tidy, 2013. *Eco-Schools England: Exploring success to inform a new horizon.*

Kellett, M., 2010. *Rethinking Children and Research*. London: Continuum

Kesby, M., 2007. Spatialising Participatory Approaches: the contribution of geography to a mature debate. *Environment and Planning A* 39(12), pp.2813–2831.

Klafki, W., 2000. The Significance of Classical Theories of Bildung for a Contemporary Concept of Allgemeinbildung, Trans. R. Macpherson In. *Teaching as a Reflective Practice : the German Didaktik tradition*, (Eds.) I Westbury, S. Hopmann, and K. Riquarts, Mahwah, N.J.: L. Erlbaum Associates.

Kollmuss, Anja, and Julian Agyeman. 2002. 'Mind the Gap: Why Do People Act Environmentally and What Are the Barriers to Pro-environmental Behavior?' *Environmental Education Research* 8(3),n pp. 239–260.

Kothari, U., 2001. Power, Knowledge and Social Control in Participatory Development. In *Participation: The New Tyranny?* B. Cooke and U. Kothari (Eds.) London: Zed Books pp.139-142

Læss⊘e, J., 2010. Education for Sustainable Development, Participation and Socio-Cultural Change. *Environmental Education Research* 16(1), pp. 39-57

Lawy, R. and Biesta, G., 2006. Citizenship-as-practice: the educational implications of an inclusive and relational understanding of citizenship. *British Journal of Educational Studies* 54, pp.34–50.

Levy, B., and Zint, M., 2012. Toward Fostering Environmental Political Participation: framing an agenda for environmental education research. *Environmental Education Research* 18, pp. 1–24.

Lewin, K. (1948) *Resolving Social Conflicts: selected papers on group dynamics*. Gertrude W. Lewin (Ed.). New York: Harper & Row

Lincoln, Y. S. and Guba, E., 1985. *Naturalistic Inquiry*. Beverly Hills, Calif: Sage Publications

Liu, Z., 2011. http://www.zcliu.org/archives/color-perception-and-language

Lotz-Sisitka, H. and Raven, G., 2004. Learning through Cases: adopting a nested approach to case-study work in the Gold Fields participatory course initiative. *Environmental Education Research* 10(1), pp. 67-87

Lousley, C., 1999. (De)Politicizing the Environment Club: environmental discourses and the culture of schooling. *Environmental Education Research* 5(3), pp. 293 — 304

Lundegård, I. and Wickman, P.O. 2007. Conflicts of Interest: an indispensable element of education for sustainable development. *Environmental Education Research* 13(1), pp. 1-15

Maitles, H. and Deuchar, R., 2006. 'We don't learn democracy, we live it!': consulting the pupil voice in Scottish schools. *Education, Citizenship and Social Justice* 1(3), pp.249–266.

Mannion, G., 2003. Children's Participation in School Grounds Developments: creating a place for education that promotes children's social inclusion. *International Journal of Inclusive Education* 7(2), pp.175–192.

Mannion, G., 2005. Borderland Voices and Practices: the ambiguity of children's participation in school grounds greening. *Canadian Journal of Environmental Education* 10, pp. 241-255.

Mannion, G. and I'Anson, J., 2004. Beyond the Disneyesque: children's participation, spatiality and adult-child relations. *Childhood* 11(3), pp.303–318.

Maxwell, J.A., 1996. *Qualitative Research Design : an interactive approach*. Thousand Oaks, Calif.: Sage Publications.

Marshall, C. and Rossman, G., 1989. *Designing Qualitative Research*. London: Sage

Mckeown, R. and Hopkins, C. 2003. 'EE p ESD: Defusing the Worry'. *Environmental Education Research* 9(1), pp.117–128.

McLaughlin, T. (2003) Teaching controversial issues in citizenship education. *In Education for Democratic Citizenship: Issues of Theory and Practice* A. Lockyer, B. Crick and J. Annette (Eds) pp. 149–160.

Mill, J.S. 1859. On Liberty *In* On Liberty with the Subjection of Women and Chapters on Socialism. S. Collini (Ed). *Cambridge Texts in the History of Political Thought*. Cambridge: Cambridge University Press

Mogensen, F. and Schnack, K., 2010. The Action Competence Approach and the 'New' Discourses of Education for Sustainable Development, Competence and Quality Criteria. *Environmental Education Research* 16(1), pp.59 — 74

Murphy, P.K. *et al.*, 2009. Examining the Effects of Classroom Discussion on Students' Comprehension of Text: a meta-analysis. *Journal of Educational Psychology* 101(3), pp.740–764.

National Curriculum Council. 1990. *Curriculum guidance 7: environmental education*. York: Pindar Graphics.

Nespor, J., 2000. Anonymity and Place in Qualitative Inquiry. *Qualitative Inquiry* 6(4), pp. 546–569

Nielsen, W., Andersen, P., Hurley, A., Sabljak, V., Petereit, A., Hoskin, V., Hoban, G., 2012. Preparing Action Competent Environmental Educators: How Hard Could It Be? *Australian Journal of Environmental Education* 28(2), pp.92-107

O'Donovan, T.M., MacPhail, A. and Kirk, D., 2010. Active Citizenship Through Sport Education. *Education 3-13: International Journal of Primary, Elementary and Early Years Education* 38(2), pp. 203-215

Ofsted, 2003. *Taking the First Step Forward – Towards an Education for Learning for Sustainability*, [HMI No 1658]. London: Ofsted.

Ofsted, 2006. *Citizenship Established? Citizenship in Schools 2006/09*. London: Ofsted

Ofsted, 2011. [*Oldpath] Primary School Inspection Report*. London: Ofsted

Ohman, J. and Ostman, L., 2007. Continuity and Change in Moral Meaning-Making—A Transactional Approach. *Journal of Moral Education* 36(2), pp.151-168.

Öhman, J. & Öhman, M., 2013. Participatory approach in practice: an analysis of student discussions about climate change. Environmental Education Research, 19(3), pp.324–341.

O'Sullivan, C. 2013. Researching the Sustainable School: the ethics of anonymity in an ethnographic study. In *Research Journeys: a collection of narratives of the doctoral experience*. E. Lee, C. Blackmore, E. Seal (Eds.) Newcastle: Cambridge Scholars Publishing

Oulton, C., Day, V., Dillon, J. and Grace, M. (2004) Controversial Issues—Teachers' Attitudes and Practices in the Context of Citizenship Education. *Oxford Review of Education* 30(4), pp. 489–507.

Ozkan, B. C., 2004. Using Nvivo To Analyze Qualitative Classroom Data on Constructivist Learning Environments. *Qualitative Report* 9(4), pp. 589–603.

Payne, P., 2006. The Technics of Environmental Education. *Environmental Education Research* 12(3-4), pp.487–502.

Paltridge, B., (2006) *Discourse Analysis: an introduction*. London: Continuum.

Quennerstedt, M., Öhman, J. and Öhman, M., 2011. Investigating Learning in Physical Education—A Transactional Approach. *Sport, Education and Society*, 16(2), pp.159–177.

Reid, A., and Nikel, J., 2008. Differentiating and Evaluating Conceptions., In *Participation and Learning : perspectives on education and the environment, health and sustainability*, A. Reid, B.B. Jensen, J. Nikel, and V.Simovska (Eds.) New York: Springer. [online]. Springer. Available from: <http://lib.myilibrary.com?ID=111737> 7 September 2012

Robottom, I.M. *et al*., 1993. *Research in Environmental Education : engaging the debate.* Geelong, Vic.: Deakin University: Deakin University Press.

Schnack, K. 1994. Some Further Comments on the Action Competence Debate. In *Action Competence as Key Concepts in Critical Pedagogy*. B. B. Jensen, and K. Schnack (Eds.) Copenhagen, Denmark: Royal Danish School of Educational Studies.

Schnack, K., 2000. Action Competence as an Educational Ideal. In *The Internationalisation of Curriculum Studies* D. Trueit, W.E.Doll, H. Wang, and W.R. Pinar, (Eds). New York: Peter Lang Publishing. pp. 271-291

Schnack, K., 2008. Participation, Education and Democracy. In *Participation and Learning : perspectives on education and the environment, health and sustainability*. A. Reid, B.B. Jensen, J. Nikel, and V.Simovska (Eds.) New York: Springer.

Schusler, Tania M., and Marianne E. Krasny. 2010. Environmental Action as Context for Youth Development. *The Journal of Environmental Education* 41(4) pp. 208–223.

Schulz, W. and Paula Wagemaker Editorial Services (Christchurch), 2010. *ICCS 2009 International Report: Civic Knowledge, Attitudes, and Engagement among Lower-Secondary Students in 38 Countries*. Amsterdam: IEA.

Schwarz, M. and Thompson, M. 1990. Divided We Stand: Redefining Politics, Technology and Social Choice In *Key Issues in Sustainable Development and Learning: A critical review*. W., Scott and S. Gough. 2004. London and New York: Routledge Falmer

Scott, W.. 2002. Minds, Gaps, Models, and Behaviours. *Environmental Education Research* 8(3), pp. 237–238.

Scott, W. A. H., and Gough, S.R. 2010. Sustainability, Learning and Capability: Exploring Questions of Balance. *Sustainability* 2: pp. 3735–3746.

Scott, W. A. H., 2009. *Developing the Sustainable School: thinking the issues through*. South West Learning for Sustainability Coalition and CREE.

Scott, W. A. H., (2012) 1979 and All That. *Environmental Education 100*. pp. 22–23

Scott, W. A. H. 2013. 'Developing the Sustainable School: Thinking the Issues Through'. *Curriculum Journal* pp.1–25.

Shier, H., 2001. Pathways to Participation: openings, opportunities and obligations. *Children and Society* 15, pp. 107–117

Silverman, D., 2010. *Doing Qualitative Research: a practical handbook*. 3rd Edition. London and Thousand Oaks, Calif: SAGE

Simovska, V., 2007. The Changing Meanings of Participation in School-Based Health Education and Health Promotion: the participants' voices. *Health Education Research* 22(6), pp. 864–878.

Simoska, V., 2008. Learning in and as participation: A Case Study from Health Promoting Schools In *Participation and Learning : perspectives on education and*

the environment, health and sustainability. A. Reid, B.B. Jensen, J. Nikel, and V.Simovska (Eds.) New York: Springer.

Simovska, V., 2012. Case Study of Participatory Health Promotion Intervention in School. *Democracy in Education* 20(1).

Sorkin, D., 1983. Wilhelm Von Humboldt: The Theory and Practice of Self-Formation (Bildung), 1791-1810. *Journal of the History of Ideas* 44(1), pp.55–73.

Stake, R. E. (2000) Case Studies. pp. 237–247 *In Handbook of Qualitative Research* 2nd Edition N. K. Denzin and Y. S. Lincoln (Eds) Thousand Oaks, CA: SAGE.

Stake, R.E., 2006. *Multiple Case Study Analysis*. The Guildford Press: New York, London

Sterling, S., 2003. *Whole Systems Thinking as a Basis for Paradigm Change in Education: Explorations in the Context of Sustainability*. Unpublished Doctoral Thesis, University of Bath

Sustainable Development Education Panel. (SDEP), 1998. *Learning for sustainability in the Schools Sector*

Thomas, G., 2011. *How to do your Case Study: a guide for students and researchers*; Sage Publications: Los Angeles, London, New Delhi, Singapore, Washington DC

Tilley, S., 2003. Transcription work: learning through coparticipation in research practices. *International Journal of Qualitative Studies in Education* 16(6), pp.835–851.

Tilley, L. and Woodthorpe, K., 2011. Is it the end for anonymity as we know it? A critical examination of the ethical principle of anonymity in the context of 21st century demands on the qualitative researcher. *Qualitative Research* 11(2), pp.197–212.

UNECE (2013) *Learning for the Future: competencies for education for sustainable development.* Available online at:

http://www.unece.org/fileadmin/DAM/env/esd/ESD_Publications/Competences_Publication.pdf; Website consulted on 09/04/2013.

UNESCO-UNEP (1976). *The Belgrade Charter*. Connect, I, 1, 1-2.

UNESCO (1978) *Intergovernmental Conference on Environmental Education: Tbilisi (USSR) 14–26 October 1977*. Final Report (Paris, UNESCO)

UNESCO (2003) *United Nations Decade of Education for Sustainable Development (January 2005-December 2014)*. Framework for a Draft International Implementation Scheme, July. Paris

Uprichard, E., 2008. 'Children as both beings and becomings: Children Childhood and temporality; Children and Society: 22 (4): pp. 303-313

Uzzell, D. 1994. *Children as Catalysts of Environmental Change: final report* (Brussels, European Commission Directorate General for Science Research and Development Joint Research Centre).

Uzzell, D. 1999. Education for Environmental Action in the Community: New Roles and Relationships. *Cambridge Journal of Education* 29(3), pp. 397–413.

Vare, P. and Scott, W. 2007. Learning for a Change: Exploring the Relationship Between Education and Sustainable Development. *Journal of Education for Sustainable Development* 1(2), pp.191-198.

Vare, P. 2007. From Practice to Theory: Participation as learning in the context of sustainable development projects. In *Participation and Learning: Perspectives on education and the environment, health and sustainability*. A.D. Reid, B.B. Jensen, J. Nikel and V. Simovska (Eds) Dordrecht: Springer Press.

Vogensen, C. 1996. Action Competence as aims and means in environmental and civic education. In *Environmental Education in the Nordic Countries.* S. Breiting and K.Nielsen (Eds) pp. 64-74 Copenhagen: Research Centre for Environmental and Health Education, The Royal Danish School of Educational Studies

WCED, 1987. *Our Common Future*. Oxford: Oxford University Press.

Wiggens, S and Riley, S., 2010. Discourse Analysis. In *Doing Qualitative Research in Psychology : A Practical Guide*, M. Forrester, M., Los Angeles (Eds.): SAGE.

Weitzman, E. A., 2000. Software and Qualitative Research, In *Handbook of Qualitative Research,* 2nd Edition. N. K. Denzin and Y. S. Lincoln (Eds.). Thousand Oaks: Sage.

Wolcott, H.F., 2001. *Writing up Qualitative Research* 2nd Edition., Thousand Oaks, Calif: Sage Publications.

Woodhead, M and Faulkner, D., 2008. Subjects, Objects or Participants: Dilemmas of Psychological Research with Children In *Research with Children: Perspectives and Practices* P. Christenson, and A. James, (Eds)

Yin, R.K., 2003. *Case Study Research: design and methods*. 3rd Edition, Thousand Oaks, Calif: Sage Publications.

Yin, R.K,. 2009. Case Study Research: design and methods; *Applied Social Research Methods Series Volume* 5. Los Angeles: Sage Publications

Appendices

Appendix 1

Data Analysis Framework

Nodes\\AC attributes\\Experiential understanding\\applying knowledge gained elsewhere aggregate
Nodes\\AC attributes\\Experiential understanding\\applying knowledge gained elsewhere aggregate\applying knowledge
Nodes\\AC attributes\\Experiential understanding\\applying
Nodes\\AC attributes\\Experiential understanding\\change
Nodes\\AC attributes\\Experiential understanding\\drawing
Nodes\\AC attributes\\Experiential understanding\\making
Nodes\\AC attributes\\Experiential understanding\\recounting
Nodes\\AC attributes\\Experiential understanding\\re-
Nodes\\AC attributes\\Experiential understanding\\taking
Nodes\\AC attributes\\Experiential understanding\\taking
Nodes\\AC attributes\\Experiential understanding\\taking
Nodes\\AC attributes\\Experiential understanding\\visioning
Nodes\\AC attributes\\Experiential
Nodes\\AC attributes\\Experiential understanding\\visioning\visioning alternative solutions (2)

Appendix 1

Nodes\\AC attributes\\Knowledge\\applying knowledge gained elsewhere
Nodes\\AC attributes\\Knowledge\\applying knowledge gained elsewhere\making connections to other activities
Nodes\\AC attributes\\Knowledge\\conflicting ideas
Nodes\\AC attributes\\Knowledge\\increased familiarity with issue
Nodes\\AC attributes\\Knowledge\\increasing knowledge about an issue
Nodes\\AC attributes\\Knowledge\\Knowledge about problem
Nodes\\AC attributes\\Knowledge\\local conditions and opportunities
Nodes\\AC attributes\\Knowledge\\local environmental people
Nodes\\AC attributes\\Knowledge\\Local issues
Nodes\\AC attributes\\Knowledge\\Possible solutions
Nodes\\AC attributes\\Knowledge\\validity and reliability of knowledge and information

Nodes\\AC attributes\\Skills\\communication aggregate
Nodes\\AC attributes\\Skills\\communication
Nodes\\AC attributes\\Skills\\communication
Nodes\\AC attributes\\Skills\\communication aggregate\make a poster
Nodes\\AC attributes\\Skills\\communication aggregate\make a video
Nodes\\AC attributes\\Skills\\communication
Nodes\\AC attributes\\Skills\\communication aggregate\talk about subject
Nodes\\AC attributes\\Skills\\communication aggregate\write a blog
Nodes\\AC attributes\\Skills\\communication aggregate\write an email
Nodes\\AC attributes\\Skills\\communication aggregate\write letters
Nodes\\AC attributes\\Skills\\critical thinking aggregate
Nodes\\AC attributes\\Skills\\critical thinking aggregate\challenging authority
Nodes\\AC attributes\\Skills\\critical thinking aggregate\critical thinking only
Nodes\\AC attributes\\Skills\\critical thinking aggregate\identifying deceit
Nodes\\AC attributes\\Skills\\critical thinking aggregate\identifying opportunities for foul play
Nodes\\AC attributes\\Skills\\critical thinking aggregate\identifying undesirable outcomes
Nodes\\AC attributes\\Skills\\critical thinking aggregate\suggesting improvements
Nodes\\AC attributes\\Skills\\critical thinking
Nodes\\AC attributes\\Skills\\critical thinking aggregate\what if

Nodes\\AC attributes\\Skills\\Discussion
Nodes\\AC attributes\\Skills\\Leadership aggregate
Nodes\\AC attributes\\Skills\\Leadership aggregate\developing an understanding of what it entails
Nodes\\AC attributes\\Skills\\Leadership aggregate\Leadership only
Nodes\\AC attributes\\Skills\\Leadership aggregate\nominated by group
Nodes\\AC attributes\\Skills\\Leadership aggregate\nominated by teacher
Nodes\\AC attributes\\Skills\\Leadership aggregate\self volunteered
Nodes\\AC attributes\\Skills\\problem solving
Nodes\\AC attributes\\Skills\\Reflection aggregate
Nodes\\AC attributes\\Skills\\Reflection aggregate\conflicting opinions
Nodes\\AC attributes\\Skills\\Reflection aggregate\discussing a question
Nodes\\AC attributes\\Skills\\Reflection aggregate\planning a task
Nodes\\AC attributes\\Skills\\Reflection aggregate\plenary session
Nodes\\AC attributes\\Skills\\Reflection aggregate\reflection only
Nodes\\AC attributes\\Skills\\Reflection aggregate\revisiting learning from previous sessions
Nodes\\AC attributes\\Skills\\Reflection aggregate\visioning
Nodes\\AC attributes\\Skills\\Reflection
Nodes\\AC attributes\\Skills\\Reflection
Nodes\\AC attributes\\Skills\\Reflection aggregate\weighing up right and wrong
Nodes\\AC attributes\\Skills\\Research Skills aggregate
Nodes\\AC attributes\\Skills\\Research Skills aggregate\books
Nodes\\AC attributes\\Skills\\Research Skills aggregate\computer

Nodes\\AC attributes\\Skills\\Research Skills aggregate\Research skills only
Nodes\\AC attributes\\Skills\\Team work aggregate
Nodes\\AC attributes\\Skills\\Team work
Nodes\\AC attributes\\Skills\\Team work aggregate\co-operation
Nodes\\AC attributes\\Skills\\Team work aggregate\handling disagreement
Nodes\\AC attributes\\Skills\\Team work aggregate\Team work only
Nodes\\AC attributes\\Skills\\Team work aggregate\treating other group members nicely
Nodes\\AC attributes\\Skills\\visioning alternative solutions

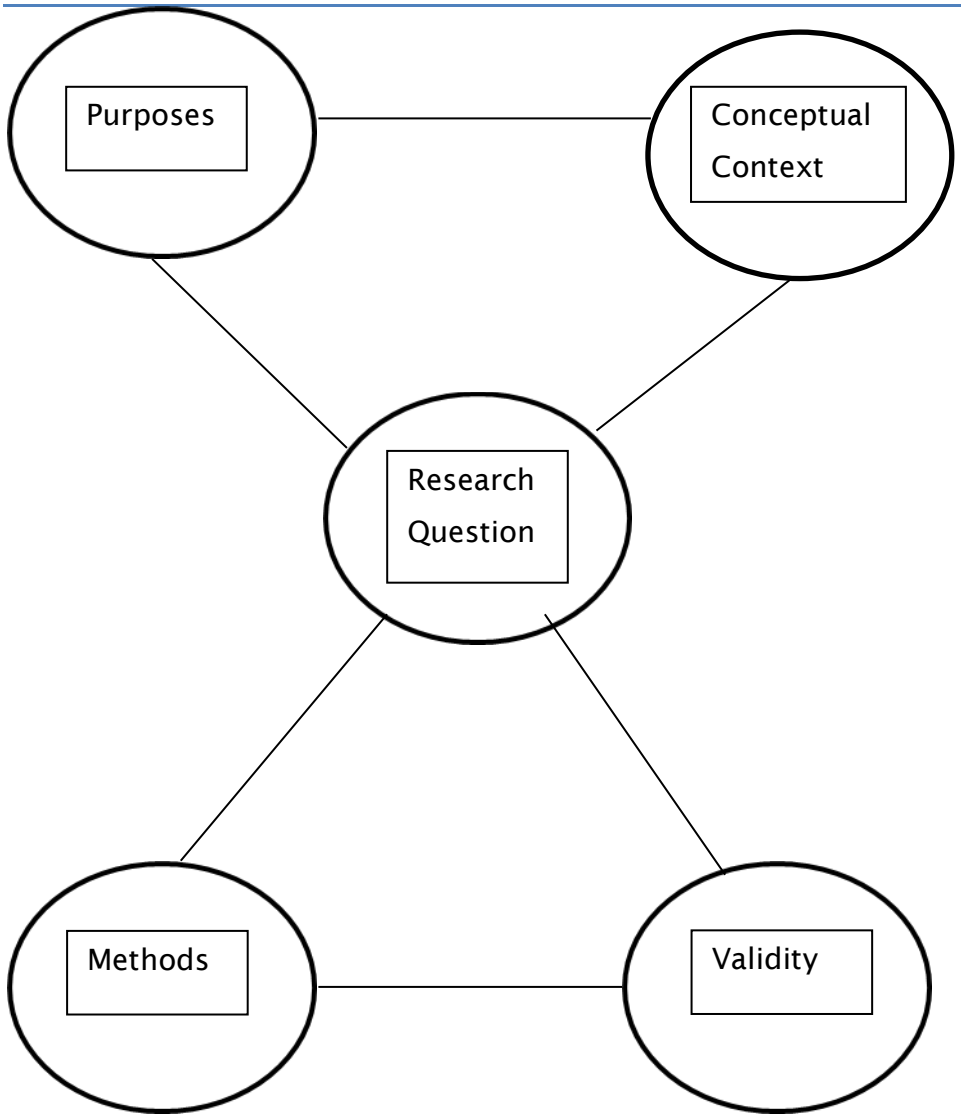
Appendix 1

Nodes\\AC attributes\\Volitional dispositions\\Children determining the direction
Nodes\\AC attributes\\Volitional dispositions\\confidence
Nodes\\AC attributes\\Volitional dispositions\\confidence\confidence in speaking out and
Nodes\\AC attributes\\Volitional dispositions\\confidence\confidence solely
Nodes\\AC attributes\\Volitional dispositions\\Empowerment
Nodes\\AC attributes\\Volitional dispositions\\Engagement aggregate
Nodes\\AC attributes\\Volitional dispositions\\Engagement aggregate\being impressed
Nodes\\AC attributes\\Volitional dispositions\\Engagement aggregate\commitment
Nodes\\AC attributes\\Volitional dispositions\\Engagement aggregate\commitment\care
Nodes\\AC attributes\\Volitional dispositions\\Engagement aggregate\disappointment
Nodes\\AC attributes\\Volitional dispositions\\Engagement aggregate\engagement only
Nodes\\AC attributes\\Volitional dispositions\\Engagement aggregate\enjoyment
Nodes\\AC attributes\\Volitional dispositions\\Engagement aggregate\loving or liking
Nodes\\AC attributes\\Volitional dispositions\\Engagement aggregate\volunteering parental input
Nodes\\AC attributes\\Volitional dispositions\\Engagement aggregate\volunteering to do a job
Nodes\\AC attributes\\Volitional dispositions\\Engagement aggregate\volunteering to lead
Nodes\\AC attributes\\Volitional dispositions\\Engagement aggregate\Willingness to participate
Nodes\\AC attributes\\Volitional dispositions\\idea generation by group members

Nodes\\AC attributes\\Volitional dispositions\\Involvement
Nodes\\AC attributes\\Volitional dispositions\\making decisions or choices
Nodes\\AC attributes\\Volitional dispositions\\Ownership
Nodes\\AC attributes\\Volitional dispositions\\save the world
Nodes\\AC attributes\\Volitional dispositions\\Willingness to suggest alternative solutions

Appendix 2

Interactive Model of Research Design



An Interactive Model of Research Design (Maxwell, 1996)

Appendix 3

Consent Forms and Information Sheets

Child Participant Information Sheet

What do you learn from being a member of a green/eco club?

Why is this work happening?

This work will help people to understand how being part of a club that works to care for the planet affects how you treat other people on the planet.

Why am I being asked to help?

You are in a green/eco club that has been recommended to me because of the great work that you are doing. You can teach others through me.

Do I have to take part?

It is up to you to choose to take part. If you say yes you (and your parents) will be asked to sign a form. You can still choose to stop at any time for whatever reason.

What will happen if I take part and what do I have to do?

I will come and join your club for a term. I will make notes about what you are doing and will record what you are saying if you say I can. I will also video record some of your meetings with your permission. At the end of each session I will ask you to tell me a bit about what you did in that session. At the end of my time with you I will ask you some questions about what you have done in the club and what you have learned.

What are the good and bad things about taking part?

There are no bad things except that I will take up some of your club time. The good things are that you will be able to think deeply about what you are doing and learning and perhaps this will help you to plan for the future. You will also be able to help other clubs like yours to get going and to improve. Your work will help others to see how what they do for the planet helps the people that live on it.

What happens when the work is finished?

I will write a summary for your teachers and parents and one for you so that you can read about what I have learned from you and you will be given a chance to talk about this. I will also write a report to be published in a magazine as part of my studies.

Will anyone that reads about this work know who I am?

No. You will be asked to choose a name for yourself so that no-one else will know who you are. If I write down exactly what you say in my report I will use your code name. Anything that has your real name on it will be stored in a locked filing cabinet or on a password protected computer.

Child consent form

The information sheet has been read to me and I know what it all means. ☐

I have had the chance to ask questions about the project. ☐

I know that I can choose to take part myself and I can stop taking part whenever I want to. ☐

I understand that the information I provide will be secret and that my name will not be in any writing about the project. ☐

I know that only the researcher will be able to look at what I have talked about and what we have done in our club and that she will keep this information secret and safe. ☐

I agree that our club activities can be audio recorded digitally and I know that the recordings will be securely stored. ☐

I agree that some of our activities may be video recorded and that these will be stored securely. ☐

I agree to take part in the research. ☐

_____ _____ _____

Name of Participant Date Signature

_____ _____ _____

Name of Person taking consent Date Signature

_____

Chosen pseudonym

If you would like more information about this project, please contact:

Appendix 3

Elsa Lee

[Phone number and email address removed]

The University of Bath, Department of Education, Eastwood Buildings 20/21, Claverton Down, Bath, BA2 7AY

Research Study – Parental Information Sheet

What children learn by being members of green/eco clubs and how this learning happens.

I would like to invite your child to participate in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please read through the following information before making your decision.

What is the purpose of the study?

Broadly this study will look at what and how children in green/eco clubs learn when working in groups on challenging problems of an environmental nature through participating in the clubs activities. Such activities usually involve working together as a team and learning about how to influence other people and are therefore valuable learning opportunities for children. This research aims to investigate these opportunities in depth. Please note that the purpose of this research is NOT to influence your child's attitude towards the environment or to influence the types of activities that the club takes part in. However, the researcher may have some input into the activities where appropriate and helpful.

Why has my child been invited to take part in this study?

Your child has been invited to take part in this research because she/he is a member of a club that has been recommended to the researcher by a local community member.

Does my child have to participate?

Your child's participation is entirely voluntary and is conditional on her/him having your consent as well. If your child wants to participate and you give consent for it too then you (and your child) will be asked to sign a consent form. You will receive a copy of this information sheet and a copy of the consent form

to keep. You can withdraw your child from the project at any time and you don't have to tell us why. Your child can also choose to withdraw at any time.

What will happen if my child participates and what will she/he have to do?

If you grant your child permission to participate a researcher will attend the school's green/eco club meetings for one term. The researcher will audio record the meetings and may video record some meetings. It is possible to give permission for the study to take place without video recording. The researcher will also observe what happens and take notes during the session. The researcher may ask brief questions at the end of some sessions about what has taken place during the session. At the end of the research the researcher will interview the club as a group about what they have learned from the activities they have participated in.

What happens when the research study ends?

The researcher will write a report about what she has found which may be published and will be submitted as part of her studies. The researcher will also write a report for you and your child to read. Your child will not be identified in any report or other publication. When direct quotes are used they will be anonymous.

Will my child's participation in this project be kept confidential?

Yes. All data will be kept anonymously on a computer or in a locked filing cabinet in a locked office. Only the researcher will have access to the data.

What happens if there is a problem?

This research is unlikely to cause problems of any kind but if you have any concerns at any time then you should speak to the adult in charge of the green/eco club through the school or contact the researcher using the details supplied below. If the researcher thinks that there is a problem arising from the

project she will notify the relevant authorities immediately in accordance with the normal procedures outlined by the school.

Who is organising the project?

The study is being carried out as part of a PhD research project in the Education Department at the University of Bath.

Contacts

If you would like more information about this study or you have any questions, please contact:

Elsa Lee (MA, PGCE)

[Phone number and email address removed]

The University of Bath

Department of Education

Eastwood Buildings 20/21

Claverton Down

Bath

BA2 7AY

Parent Consent Form

I have read and understand the information sheet. ☐

I have had the chance to ask questions about the research using the contact details provided. ☐

I understand that my child's participation is voluntary and that she/he ☐

is free to withdraw at any time, without giving any reason.

I understand that the information my child provides will be confidential and that her/his name will not be in any ouputs from the research. ☐

I understand that only the researcher will have access to my data, that this data will be securely stored and that the data will be destroyed at the end of the research. ☐

I agree that my child's particiption in eco/green club may be recorded digitally. The recordings will be securely stored. ☐

I agree that some sessions may be video recorded (a maximum of four will be selected) and that these will be securely stored. ☐

I agree to allow my child to take part in the research. ☐

_____

Name of Child Participant

_____ _____ _____

Name of Parent Date Signature

If you would like more information about this study or you have any questions, please contact:

Elsa Lee

[Phone number and email address removed]

The University of Bath

Department of Education

Eastwood Buildings 20/21

Claverton Down

Bath

BA2 7AY

Appendix 3

Staff Information Sheet

What children learn by being members of green/eco clubs and how this learning happens

I would like to invite you to participate in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please read through the following information before making your decision.

What is the purpose of the study?

Broadly this study will look at what and how green/eco clubs learn when working together on challenging problems of an environmental nature through participating in practical activities. Such activities usually involve working together as a team and learning about how to influence other people and are therefore valuable learning opportunities for children. This research aims to investigate these opportunities in depth. Please note that the purpose of this research is NOT to influence attitudes towards the environment or the types of activities that the club takes part in. However, the researcher may have some input into the activities where appropriate and if helpful.

Why have I been invited to take part in this study?

You have been invited to take part in this research because the club at your school has been recommended by a local community member.

Do I have to participate?

Your participation is entirely voluntary. If you want to participate you will be asked to sign a consent form. You will receive a copy of this information sheet and a copy of the consent form to keep. You can withdraw from the project at any time and you don't have to give a reason for doing so.

What will happen if I participate?

If you grant permission a researcher will attend the school's green/eco club meetings for one term. The researcher will audio record the meetings and may

video record some meetings. The researcher will also observe what happens and take notes during the session. At the end of the research study the researcher will interview the club as a group about what they have learned from the activities they have participated in. The researcher will also interview you as a part of this process and ask you to discuss your role in the club and your ideas about what it achieves and about the learning that takes place.

What happens when the research study ends?

At the end of the study the researcher will write a report about what she has found which may be published and will be submitted as part of her studies. The researcher will also write a report for you to read. No-one will be identified by name in any report or other publication. When direct quotes are used they will be anonymous.

Will my participation in this project be kept confidential?

Yes. All data will be kept anonymously on a computer or in a locked filing cabinet in a locked office. Only the researcher will have access to the data.

What happens if there is a problem?

This research is unlikely to cause problems of any kind but if you have any concerns at any time then you should follow school policy on such matters and/or contact the researcher using the details supplied below. If the researcher thinks that there is a problem arising from the project she will notify the relevant authorities immediately in accordance with the normal procedures outlined by the school.

Who is organising the project?

The study is being carried out as part of a PhD research project in the Education Department at the University of Bath.

Contacts

Appendix 3

If you would like more information about this study or you have any questions, please contact:

Elsa Lee (MA, PGCE)

[Phone number and email address removed]

The University of Bath

Department of Education

Eastwood Buildings 20/21

Claverton Down

Bath

BA2 7AY

Staff consent form

I have read and understand the information sheet. ☐

I have had the chance to ask questions about the research using the contact details provided ☐

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. ☐

I understand that the information I provide will be confidential and that my name will not be in any ouputs from the research. ☐

I understand that only the researcher will have access to my data, that this data will be securely stored and that the data will be destroyed at the end of the research. ☐

I agree that my participation in eco/green club and my interview may be recorded digitally. The recordings will be securely stored. ☐

I agree that some of the clubs sessions (a maximum of four will be selected) may be video recorded. ☐

I agree to to take part in the research. ☐

_____

Role in the school

_____ _____ _____

Name of Staff Member Date Signature

If you would like more information about this study or you have any questions, please contact:

Elsa Lee

[Phone number and email address removed]

The University of Bath

Department of Education

Eastwood Buildings 20/21

Claverton Down

Bath

BA2 7AY

Appendix 4

The Five Rs

The Five Rs at Oldpath School are based on the list below. The actual list used by the school has not been reproduced to maintain the anonymity of the school:

RESILIENT LEARNERS CAN:

- stick at something
- set targets and practise
- have a positive attitude
- find interest in what they are doing

RESPONSIBLE LEARNERS CAN:

- work effectively as part of a team
- plan ahead
- get on with it
- know right from wrong

REASONING LEARNERS CAN:

- choose the best method
- say which is better and why

- gather all the evidence
- take time to do something properly

RESOURCEFUL LEARNERS CAN:

- learn in different ways
- use their imagination
- take risks
- ask good questions

REFLECTIVE LEARNERS CAN:

- learn from mistakes
- listen to different opinions
- ask why
- stay calm

Appendix 5

Activity Log

Case 1

Visit Date	Visit Purpose
08.11.2011	To complete getting consent from children and observe session
15.11.2011	to write the blog, make a video and carry out energy surveys
22.11.2011	to write the blog, make a video, measure how much energy the computers use and research solar power and make a display about it
29.11.2011	For Me - To record the session and to pilot the use of the video cameras For the Group: To develop the solar panel display, research solar power and find answers to the questions from previous sessions, make switch off stickers for computers
17.01.2012	To introduce the new members to the club and to give them a flavor of what the club does. To discuss the projects that the club will undertake for the term.
24.01.2012	to work on the 3 projects identified in the previous session i.e. the bike ride, the solar panel display and the bug city
31.01.2012	to complete the video, continue with the Cycle project (Sustrans Big Pedal), Bug City, and Solar Panel Display. To make a bin for printer cartridges and discarded mobile phones.

07.02.2012	to continue with the projects from the previous week (Bug City, Mobile Phone recycling bin, Solar panel display, and to additionally do some calculations from the monitor that had been plugged into the classroom computer plug
14.02.2012	
21.02.2012	to carry out a bug survey for ? as part of a national project and to start children thinking about the assembly planned to take place in two weeks time.
28.02.2012	To plan the eco assembly; hand out sheets to teachers for the Big Pedal, to work on solar panel display and video, to make posters for the Big Pedal, to be video recorded
06.03.2012	to discuss environmental activism following a starter in the form of a video by Greenpeace as a whole group, to complete solar display, to finish video, to carry out research into bugs and beetles for the bug city; to log the information on the Big Pedal, to finish the mobile phone and printer cartridge bin.
13.03.2012	
20.03.2012	to carry out some focus group interviews with 3 groups of 4 children about what they have achieved in the club and the sorts of skills that they think they have learned so far.
01.05.2012	First session back after Easter break. To get the Minibeast City up and running.
08.05.2012	to continue with work on MiniBeast City
15.05.2012	Video record the session. Making posters for the MiniBeast City, think about raising money ideas, Finish Solar Panel Display,
29.05.2	to continue with fundraising activities for minibeast city (planning cake

012	sale, quiz for fundraiser, inventory, posters, application for grant for money from Kids Closer to Nature.

Case 2

Visit Date	**Visit Purpose**
01.02.2012	to set up observations of the club and interview TIC3 and AIC3
09.02.2012	
23.02.2012	cancelled
01.03.2012	cancelled
08.03.2012	To look at the soil testing kit and start to get to know the children
15.03.2012	To weed the patch
22.03.2012	Sign off the consent forms
26.04.2012	cancelled
09.05.2012	Interview with Head teacher
03.05.2012	activities cancelled so used to complete signing off the forms
10.05.2012	cancelled
17.05.2012	to interview parent helper; to weed the patch again
18.05.2012	To finish weeding the patch ready for black platic and bark
24.05.2012	Plant the herbs in the garden which now has a fence and black plastic
25.05.2012	Finish planting herbs in the garden
31.05.2012	Finish planting herbs in the garden; lay on the bark
21.06.2012	To make plans for future and next year

05.07.2012	Finish laying the bark and plant the bay leaf tree

Appendix 6

Citizenship Education in Primary Schools

This programme is non-statutory and schools are not required to follow it. It is included so that schools can plan a whole curriculum.

During key stage 1 pupils learn about themselves as developing individuals and as members of their communities, building on their own experiences and on the early learning goals for personal, social and emotional development.

They learn the basic rules and skills for keeping themselves healthy and safe and for behaving well. They have opportunities to show they can take some responsibility for themselves and their environment. They begin to learn about their own and other people's feelings and become aware of the views, needs and rights of other children and older people.

As members of a class and school community, they learn social skills such as how to share, take turns, play, help others, resolve simple arguments and resist bullying. They begin to take an active part in the life of their school and its neighbourhood.

Knowledge, skills and understanding

Developing confidence and responsibility and making the most of their abilities

1. Pupils should be taught:
a. to recognise what they like and dislike, what is fair and unfair, and what is right and wrong
b. to share their opinions on things that matter to them and explain their views
c. to recognise, name and deal with their feelings in a positive way
d. to think about themselves, learn from their experiences and recognise what they are good at
e. how to set simple goals

Preparing to play an active role as citizens

2. Pupils should be taught:
a. to take part in discussions with one other person and the whole class
b. to take part in a simple debate about topical issues
c. to recognise choices they can make, and recognise the difference between right and wrong
d. to agree and follow rules for their group and classroom, and understand how rules help them
e. to realise that people and other living things have needs, and that they have responsibilities to meet them
f. that they belong to various groups and communities, such as family and school
g. what improves and harms their local, natural and built environments and about some of the ways people look after them
h. to contribute to the life of the class and school
i. to realise that money comes from different sources and can be used for different purposes

Developing a healthy, safer lifestyle

3. Pupils should be taught:
a. how to make simple choices that improve their health and wellbeing
b. to maintain personal hygiene
c. how some diseases spread and can be controlled
d. about the process of growing from young to old and how people's needs change
e. the names of the main parts of the body
f. that all household products, including medicines, can be harmful if not used properly
g. rules for, and ways of, keeping safe, including basic road safety, and about people who can help them to stay safe

Developing good relationships and respecting the differences between people

4. Pupils should be taught:
a. to recognise how their behaviour affects other people
b. to listen to other people, and play and work cooperatively
c. to identify and respect the differences and similarities between people
d. that family and friends should care for each other
e. that there are different types of teasing and bullying, that bullying is wrong, and how to get help to deal with bullying

Breadth of opportunities

5. During the key stage, pupils should be taught the knowledge, skills and understanding through opportunities to:
a. take and share responsibility [for example, for their own behaviour; by helping to make classroom rules and following them; by looking after pets well]
b. feel positive about themselves [for example, by having their achievements

recognised and by being given positive feedback about themselves]
c. take part in discussions [for example, talking about topics of school, local, national, European, Commonwealth and global concern, such as 'where our food and raw materials for industry come from']
d. make real choices [for example, between healthy options in school meals, what to watch on television, what games to play, how to spend and save money sensibly]
e. meet and talk with people [for example, with outside visitors such as religious leaders, police officers, the school nurse]
f. develop relationships through work and play [for example, by sharing equipment with other pupils or their friends in a group task]
g. consider social and moral dilemmas that they come across in everyday life [for example, aggressive behaviour, questions of fairness, right and wrong, simple political issues, use of money, simple environmental issues]
h. ask for help [for example, from family and friends, midday supervisors, older pupils, the police]

Explanatory notes and cross-curriculum references

Note for 2a, 2b - Cross reference to English

En1 Speaking and listening: Group discussion and interaction
3. To join in as members of a group, pupils should be taught to:
a. take turns in speaking
b. relate their contributions to what has gone on before
c. take different views into account
d. extend their ideas in the light of discussion
e. give reasons for opinions and actions

Note for 2g - Cross reference to geography

Geographical enquiry and skills
1. In undertaking geographical enquiry, pupils should be taught to:
c. express their own views about people, places and environments [for example, about litter in the school]
knowledge and understanding of environmental change and sustainable development
5. Pupils should be taught to:
a. recognise changes in the environment [for example, traffic pollution in a street]
b. recognise how the environment may be improved and sustained [for example, by restricting the number of cars]

Note for 2g - Cross reference to science

Appendix 6

Sc2 Life processes and living things: Living things in their environment
5. Pupils should be taught to:
c. care for the environment

Note for 3a- Cross reference to physical education

Knowledge and understanding of fitness and health
4. Pupils should be taught:
a. how important it is to be active
b. to recognise and describe how their bodies feel during different activities

Note for 3d-3f - Cross reference to science

Sc2 Life processes and living things: Humans and other animals
2. Pupils should be taught:
a. to recognise and compare the main external parts of the bodies of humans and other animals
b. that humans and other animals need food and water to stay alive
c. that taking exercise and eating the right types and amounts of food help humans to keep healthy
d. about the role of drugs as medicines
e. how to treat animals with care and sensitivity
f. that humans and other animals can produce offspring and that these offspring grow into adults
g. about the senses that enable humans and other animals to be aware of the world around them

Note for 3g - Cross reference to design and technology

Working with tools, equipment, materials and components to make quality products
2. Pupils should be taught to:
f. follow safe procedures for food safety and hygiene.

Appendix 7

Data Processing

This Appendix contains the data processing for each of the two cases separately. A section of this appendix is reproduced in Chapter 9 and the numbering below reflects that although it varies from the system used in the rest of the thesis.

The appendix is organised as follows:

- 9Ai-iv Attribute sets from etic analytical framework
- 9Ai-iv.1-3 Themes from emic analytical framework
- 9Ai-iv.1-3. a-e Exemplification of coding subcategories

The arrangement of the chapter represents the data-led framework developed from this research.

i. 9A Contents

Appendix 7

9Aiii) Skills

9Aiii.1) Group arrangement

9Aiii.2) Whole Group Activity Focus

9Aiii.3) Sub Group Activity Focus

9Aiv) Volitional Dispositions

9Aiv.1) Group arrangement

9Aiv.2) Whole Group Activity Focus

9Aiv.3) Sub Group Activity Focus

b. 9Ai) Experiential Understanding Attribute Set

The experiential understanding coded for in these data is that which relates to change, action and envisioning. In action competence, the premise is that participation in authentic action enables individuals' willingness and capability to precipitate change. A stage in the process of engendering change is to be able to envision alternative solutions or outcomes (Jensen, 2002; Carlsson and Simovska, 2012). The relationship between these three elements of action competence (action, change and envisioning) is experiential understanding. In the data change, action and envisioning are coded for as categories of experiential understanding. It is worth noting that envisioning is also a category of the skills set, hence there is overlap between these two sets.

Moreover, this set (See Appendix ?) is founded on the premise that understanding is expressed in encounters and re-actualisation of experience in new contexts is evidence of the development of the attributes in this set. As such, the development of experiential understanding can only be ascertained when it can be observed. Coding for experiential understanding usually involved identifying dialogue where children explicitly referred to other experiences. Dialogue was coded when it expressly involved a description or re-evaluation of prior

knowledge or experiences related to environmental issues that were obviously elicited by the activity at hand. Experiential understanding was also coded for if the expression of prior knowledge was deemed to be elicited by the individual's status as a member of the group at a more general level. In these instances, it might be that the prior knowledge was not related to involvement in an encounter but rather was an outcome of the child's interest in environmental issues.

Complications arose during coding for experiential understanding when an individual invoked knowledge about an environmental issue but did not make any reference to where that knowledge originated. For example, in a discussion about recycling a member might state that recycling helps to reduce carbon dioxide emissions or they might say that their parents told them that recycling reduces carbon dioxide emissions. In the second instance, it is clear where the knowledge originates so it is clear that the speaker is drawing on a past experience in mentioning it. It is obvious how to code the dialogue. However, in the first instance, coding was applied on the basis of the context of the dialogue. In other words, if the statement about recycling was not simply a restating of what had been said during the conversation in which the conversation took place, the encounter was deemed to provide an opportunity developing experiential understanding. The experience of using the knowledge in the context of the encounter was coded in this set. Thus, the coding would be determined by the encounter that elicited the knowledge.

These themes are discussed below and are arranged as follows

9Ai.1 – Impact of Group Arrangement

9Ai.2 – Impact of Whole Group Focus

9Ai.3 – Impact of Sub groups Focus

i. 9Ai.1 Group Arrangement

Table 9Ai.1) illustrates the presence or absence of the attributes in this attribute set according to the themes that emerged during the data collection and analysis

phase. The data show that whole group discussions develop the greatest range of attributes in this set.

Table 9Ai.1) – Tabulating Group Arrangements and the coding categories for: Experiential Understanding

Experiential Understanding	**A : individual work**	**B : sub group**	**C : whole group**
applying knowledge gained elsewhere aggregate	Yes	Yes	Yes
making connections to other	No	No	No
change (stating willingness to change)	No	No	Yes
drawing on past experience to suggest alternative solutions	Yes	Yes	Yes
making change	No	No	Yes
recounting past experiences	No	Yes	Yes
re-evaluating past events or remembering plans not carried out.	No	Yes	Yes
learning about what it means to take action	No	No	Yes
taking action only	No	No	No
envisioning alternative outcomes	No	No	Yes
envisioning alternative solutions	No	Yes	Yes

It is worth noting that individual work was not a feature of this group. Individual work only featured in seven of the seventeen sessions recorded in Case 1.

Moreover, in five of those instances the work was completed individually but in tandem with others. In other words, members might be making posters individually, but they were doing this alongside other group members; who were also making posters about the same issue at the same time. These might be described as common and might be categorised as group work by a different researcher.

1. Exemplification of Group Arrangements Theme

To exemplify the findings evident in Table 9Ai.1 the session that is most revealing (See Appendix ? for details of each of the sessions) involved a whole group discussion instigated by a short video about campaigners who illegally board a ship bound for the arctic to investigate the potential for drilling for oil. In this encounter, (a whole group discussion of a controversial issue) the following categories were identified:

a) Change

b) Applying knowledge gained elsewhere

c) Drawing on past experience to suggest alternative solutions

d) Recounting past experiences

e) Envisioning

These headings are drawn from the coding categories which have been aggregated according to the five headings to simplify the description of the data. The table below shows how this has been done. In the following section, I include a revealing encounter for each of these attributes that the table identifies as significant. Where useful, I reflect on the inclusion of the category (i.e. the attributes) in the set (Experiential Understanding).

Table 9Ai.1a) Simplifying the coding categories

Experiential Understanding coding subcategories	**Attribute**

applying knowledge gained elsewhere aggregate	Applying knowledge gained elsewhere
change (stating willingness to change)	Change
drawing on past experience to suggest alternative solutions	Drawing on past experience to suggest alternative solutions
making change	Change
recounting past experiences	Recounting past experiences
envisioning alternative outcomes	Envisioning
envisioning alternative solutions	Envisioning

These attributes are drawn from the coding categories that have been aggregated according to the five headings to simply the description of the data. In the following section, I include a revealing encounter for each of these attributes that the table identifies as significant. Where useful, I reflect on the inclusion of the category (i.e. the attributes) in the set (Experiential Understanding).

a) Change

In this project, coding for change involved identifying that resulted in targeted change. In other words, the group identified a problem or a need for change and the group instigated a change, which was manifested in the surroundings. Coding for change also involved identification of intention to solve environmental problems (in the present or the future) as expressed in the dialogue of the children. In this category, intentions to save the world or planet were identified as willingness to engender change. The data below is an excerpt from the whole

group discussion mentioned above, instigated by a video about illegal campaigning by an NGO to stop drilling for oil taking place in the arctic.

Box 9Ai.1a) – Excerpt to illustrate the impact of whole group discussions on coding for change

Tic1[13]: …what was the reason they did something naughty? Sugar?

Sugar: was to save the world

Tic1: was to save the world… and to get people to know about what they were doing. Do you think that is a good thing to do or a bad thing?

2+ S[14]: GOOD

Tic1: do you think it is ok to do something naughty if it is for a good reason?

2+ speakers: YES YES!

[…]

Mark: yeah, well kind of, it is quite good for that one thing but then you might you would get locked up in jail

Tic1: so it is bad for the person? yeah maybe

Tina: I kind of thinking one company is more important I mean less important than the whole world.

Tic1: but one company, the people that own that company; they need their millions of pounds every year. If you took all the money away from the guy in charge of Shell do you think he will have a happy life? so are you saying you think the world is more important than the guy that owns Shell?

[13] Tic2 Refers to Teacher in Charge of Case 1

[14] 2+ S used to refer to situations when more than one person was talking and they could not be identified

Appendix 7

Mark: well, plus everyone in the world?

Tic1: yeah, but how about all the people in charge of Shell? they all need the money.

Tina: yeah I know but you are saying that one company should be able to kill the world.

Tic1: do you think that's not true? do you think they shouldn't?

2+ speakers: No, no laughter... they shouldn't

Tic1: ok, do you think then that you should do whatever you can to stop them?

2+S: ummm

Tic1: what sort of things should you do to stop a company like that?

UnidS[15]: put it out of business...

Tic1: Sophia

Sophia: well, um, you should try and stop them but I don't think you should... personally I wouldn't trespass even if it was to save the world, I wouldn't do that.

Tic1: no that is fair enough ... and some people wouldn't

Sophia: because then you would get put in jail and you wouldn't be able to tell anyone anyway.

Tic1: why do you think these people decided to do this because these people are going to, well, they got arrested, they won't go to jail... but those people are at risk of going to jail... why do you think they would be willing to go to jail for something like saving the planet? Coco?

Coco: because there are about 7 billion peopple in the world and there is only 7

[15] UnidS used to refer to instances where it was not possible to identify the speaker involved

of them

Tic1: yeah, so do you think that is a sacrifice worth making?

Coco: um also um if shell blew up the whole world then we wouldn't have anyone to sell petrol to.

lots and lots of laughter

Tic1: shell are worried about selling petrol to the people who are becoming extinct

(more laughter)

Tic1: they are worried about selling petrol to the people who haven't got any food

2+ speakers: No no

Tina: well, what if it leaks all over the food and they eat it and then they die? (laughter) Coco have you got someting sensible to say?

Coco: well, Belle was just saying that if they went into jail then it would be bad for them but then they would be doing something good for the world, so would you do it so you be doing it for a good reason but you would be getting a bad thing?

Tic1: that is exactly right... put put your hands up, do you think it is good to do something bad as long as it is for a good reason?

(lots of hands)

The dialogue underlined in Box 9Ai.1a particularly starkly identifies change through the link to the desire to 'save the world' and the work of this group of Greenpeace activists. Although change does emerge in other (such as Sub group task-based), it is worth emphasising that in the whole group discussions all the members of the group are exposed to the concept. Notwithstanding the fact that not all children express the view that change is required, nor do all children

express their willingness to be involved with change in whatever form; it is likely that they will all be, at the very least, reflecting on it. This contention is corroborated by my observations of this encounter where the level of attention and focus of the children was remarkable.

b) Applying knowledge gained elsewhere

Box 9Ai.1b) Excerpt to illustrate the impact of whole group discussions on coding for applying knowledge gained elsewhere

Snowy: in cars and using factories to make their furniture and stuff and then it is just all going and because there because of those gases making the earth hotter and stuff that means all the ice and stuff is melting and so now the animals and environment and stuff are

Tic1: ok this little video is not very long, it is only about four minutes long; it's just a little video about what they have been doing, Greenpeace and Eco Warriors in the arctic and so I am going to let you watch it and then I am going to explain a little bit and see what you think. Sam?

Sam: umm can't you get electric cars now so that

Tic1: you can you can we have got a little leaflet about that if you want to find out some more

Mark: yeah but they are not good because they come from like a power station that emits ...

Snowy: really?

Mark: yeah!

Tic1: depends how you make your power, doesn't it?

Belle: if you had solar power in your house

Tic1: if your electrcity came from solar panels?

Snowy: oo you could

Tic1: anyway... ok here is the video, why do you think shell.. do you know who Shell is? Sam?

Sam: they are like a petrol company.

Tic1: that's right. why does a petrol company want to drill for oil in the antarctic? Sophia?

Sophia: umm a few years ago a ship found loads of oil

The excerpt in Box 9Ai.b shows that whole group discussions elicit knowledge gained elsewhere. The way that this takes place will vary between different discussions but in the example above the way that it takes place is through the teacher's technique for managing the discussion. For example, rather than telling the children information (like who Shell are) she asks them to share their knowledge with the group. The way that the teacher manages the discussions is a theme that is explained later in this chapter so will not be developed further here. The significance of the whole group element is that the children in the group are encouraged to share their knowledge because they want to share it with the whole group. Although this might not be the same for all of the children in the group (some group members were far more likely to talk in a group situation than others); all of the members were present in the situation and there was therefore the potential for all members to apply their knowledge in the encounter.

c) Drawing on past experience to suggest alternative solutions

In this encounter, the explicit reference of a child to a previous experience is not made. However, previous experience is implicated by the fact that the knowledge exhibited by the children in this encounter was not gained from the encounter itself.

Box 9Ai.c Excerpt to illustrate the impact of whole group discussions on coding for *drawing on past experience to suggest alternative solutions*

Tic1: why do you think they stowed away on the actual ship itself, Snowy, what do you think?

Snowy: well, maybe it is so they could get a good idea of what is actually happening and also then when the crew mates go out to check on everything they will see everything and say to the captain people have um people are on the ship so we need to stop and maybe they are probably trying to persuade the crew to stop producing the the

Tic1: that is good. Who else are they trying to persuade by putting banners up because they went on the ship so the ship said oh we can't go anywhere becasue we have got these Eco warriors on it and so all the newspapers and all the TV reporters were there... so who else were they trying to persuade, it wasn't just the people on the ship.. Tina?

Tina: um um the company

Tic1: yeah, the company, Coco?

Coco: us! because its not just the government, the government is also there for us so they try and help our world but we mess it up

The excerpt points to Tic1's management of the discussion as the means by which the knowledge is elicited. However, the fact that Tic1 calls on a number of different children to express their ideas is significant as it shows how the whole group element has an impact on the way these attributes are elicited. In contrast, a discussion of a controversial issue such as this in a sub group setting would not elicit the same ideas as the constitution of the group would limit the ideas. To get the same knowledge to emerge, Tic1 might be forced to express it herself and hence the knowledge would not be an outcome of drawing on experience to suggest alternative solutions. Hence, it would not contribute to the development of children's experiential understanding.

d) Recounting past experiences

For this node it is only possible to code dialogue as it appears in the transcript. It is included in the attribute set because it is postulated that when a member talks about the experience the experience is re-actualised. It is in the re-actualisation of the experience that understanding is deepened.

Bo9Ai.d) *Excerpt to illustrate the impact of whole group discussions on coding for recounting past experience*

Mark: um, I have been past the arctic circle Tic1: have you? oh! that is very interesting, you will have to tell me a bit more about that later.

What is worth noting here is that Mark did not get the opportunity to describe his experience any more fully than this; however, this does not detract from the fact that, in mentioning it he, in some way, re-actualises it because he has to think about it and relive it to remember it. This particular example and a number of others that are coded for as recounting past experience may well have been elicited by sub group discussions too. However, the fact that they occur here in this whole group arrangement is noteworthy as it shows that whole group discussions can elicit the recounting of past experience; concomitantly showing in what ways the encounters in Case 1 contributed to the development of children's action-competence-associated attributes.

e) Envisioning

Envisioning denotes the ability of an individual to imagine a different situation or outcome and the implications this might have. In action competence, envisioning is usually associated with coming up with alternative solutions to a problem identified by the individuals engaged in the activity. In this research, envisioning is not limited in such a way because the value of being able to imagine different outcomes is recognised as an important ability for an active citizen, whether this is linked directly to a problem that the individual is working on or whether this is linked to a discussion such as the one in this excerpt. Envisioning is categorised

in this attribute set because, in imagining a different situation, the individual has to draw on the knowledge, understanding and skills gained from other experiences and re-actualise it in a projected encounter.

Box 9Ai.e) Excerpt to illustrate the impact of whole group discussions on coding for envisioning

Tic1: Tim, Tim, why do you think it is never right to do something wrong?

Tim: I don't know..

Tic1: so if if for example, let me see, if someone said to you, right you need to stop Shell from ... I want you to write a letter to them are you happy to do that?

Tim: yeah

Tic1: right, if someone said right, we are going to stop shell we are going to stand outside the petrol station and tell people about them. are you happy to do that?

Tim: hmmm

Tic1: maybe ok

Mark: my dad did that.. it was ESSO when I was like one...

Tic1: if they said we are going to go to Shell head office and talk to them are you happy with that?

(ye yes yes)

Tic1: if they said we are going to go to a petrol station and chain ourselves to the pumps are you happy to do that?

Tim: no

(chorus of semi-audible chatter mostly saying no etc)

Tic1: So do you think... why do you think these people made such a sacrifice? Why do you think these people did this naughty thing by tresspassing?

(giggling)

and why do you think they made that choice? Sophia?

Sophia: because it is like saying if something bad happened to their lives it wouldn't really matter a lot because if the world died it likes it would be the end of our species it can't come back.

Envisioning was coded in excerpt in Box 9Ai.1e because the data illustrates how the whole group were asked to imagine a series of what if situations. A what if situation is one which involves the need for an individual to imagine what might happen in a projected situation. This excerpt illustrates how a whole group discussion where members have different ideas about the issues under discussion and are able to voice them, develops the attributes associated with experiential understanding.

ii. 9Ai.2 – Whole group focus

The whole group discussions in Case 1 had different foci, which emerge as a second theme. Although this theme is applied as a secondary level individually to each of the group arrangements (i.e. whole group, sub group, individual work), the status of these foci is that of a theme; hence it is described as such in this research. The status of *focus* as a theme is determined by the fact that its impact has an equivalent significance for the development of action-competence-associated attributes as group arrangement does. The focus theme has the values: controversial issue discussions, planning-based discussions and plenary discussions).

The table below is produced by categorising all of the encounters with a whole group arrangement and then coding them according to the foci (i.e. controversial issue discussion, planning-based, plenary discussion).

In Table 9Ai2, the three foci identified as outlined, are tabulated along with the presence or absence of the coding categories across the data set. The table

identifies that a greater range of categories for the set, *Experiential Understanding* were developed by the whole group with a planning focus.

Table 9Ai2) – Tabulating Whole Group Focus and the coding categorisation of Experiential Understanding

Experiential Understanding	**D : controversial issue discussion**	**E : planning-based discussion**	**F : Plenary-based discussion**
applying knowledge gained elsewhere aggregate	Yes	Yes	No
making connections to other	No	No	No
change (stating willingness to change)	Yes	Yes	Yes
making change	Yes	No	No
drawing on past experience to suggest alternative solutions	Yes	Yes	Yes
recounting past experiences	Yes	Yes	Yes
re-evaluating past events or remembering plans not carried out.	No	Yes	No
learning about what it means to take action	No	Yes	No
taking action only	No	No	No

envisioning alternative outcomes	No	Yes	Yes
envisioning alternative solutions	Yes	Yes	Yes

1. Exemplification of Impact of Whole Group Focus

The coding subcategories were aggregated in the same way as for the group arrangement tabulation to enable clarity in the exemplification of these data.

a) Change

b) Applying knowledge gained elsewhere

c) Drawing on past experience to suggest alternative solutions

d) Recounting past experiences

e) Envisioning

In the remainder of this section, I use excerpts from the data to exemplify the themes (controversial issue discussion, planning-based discussion, plenary-based discussion). The purpose of this is to allow the richness of the data to emerge in the analysis. I am selective in the combinations of theme and subcategory I choose to exemplify, using both the NVIVO coverage statistics and my knowledge of the encounters. It may be that some encounters display higher coverage statistics but the richness of the data is lost in the process of selecting an excerpt. In these instances, I chose a different excerpt. Decisions were also based on whether the encounter had been used for other themes. In these instances, it was deemed appropriate to choose different excerpts to typify the richness of the data gathered in this research.

a) Change

Appendix 7

Box 9Ai2.a) Excerpt to illustrate the impact of the whole group activity focus controversial discussions, on coding for change

Tic1[16]: …what was the reason they did something naughty? Sugar?

Sugar: was to save the world

Tic1: was to save the world… and to get people to know about what they were doing. Do you think that is a good thing to do or a bad thing?

2+ S[17]: GOOD

Tic1: do you think it is ok to do something naughty if it is for a good reason?

2+ speakers: YES YES!

[…]

Mark: yeah, well kind of, it is quite good for that one thing but then you might you would get locked up in jail

Tic1: so it is bad for the person? yeah maybe

Tina: I kind of thinking one company is more important I mean less important than the whole world.

Tic1: but one company, the people that own that company; they need their millions of pounds every year. If you took all the money away from the guy in charge of Shell do you think he will have a happy life? so are you saying you think the world is more important than the guy that owns Shell?

Mark: well, plus everyone in the world?

Tic1: yeah, but how about all the people in charge of shell? they all need the money.

[16] Tic2 Refers to Teacher in Charge of Case 1

[17] 2+ S used to refer to situations when more than one person was talking and they could not be identified

Tina: yeah I know but you are saying that one company should be able to kill the world.

Tic1: do you think that's not true? do you think they shouldn't?

2+ S: NO, no laughter... they shouldn't

Tic1: ok, do you think then that you should do whatever you can to stop them?

2+S: ummm

Tic1: what sort of things should you do to stop a company like that?

UnidS[18]: put it out of business...

Tic1: Sophia

Sophia: well, um, you should try and stop them but I don't think you should... personally I wouldn't trespass even if it was to save the world, I wouldn't do that.

Tic1: no that is fair enough ... and some people wouldn't

Sophia: because then you would get put in jail and you wouldn't be able to tell anyone anyway.

Tic1: why do you think these people decided to do this because these people are going to, well, they got arrested, they won't go to jail... but those people are at risk of going to jail... why do you think they would be willing to go to jail for something like saving the planet? Coco?

Coco: because there are about 7 billion peopple in the world and there is only 7 of them

Tic1: yeah, so do you think that is a sacrifice worth making?

[18] UnidS used to refer to instances where it was not possible to identify the speaker involved

Appendix 7

Coco: um also um if shell blew up the whole world then we wouldn't have anyone to sell petrol to.

lots and lots of laughter

Tic1: shell are worried about selling petrol to the people who are becoming extinct

(more laughter)

Tic1: they are worried about selling petrol to the people who haven't got any food

2+ speakers: No no

Tina: well, what if it leaks all over the food and they eat it and then they die? (laughter)

Tic1: Coco have you got someting sensible to say?

Coco: well, Belle was just saying that if they went into jail then it would be bad for them but then they would be doing something good for the world, so would you do it so you be doing it for a good reason but you would be getting a bad thing?

Tic1: that is exactly right... put put your hands up, do you think it is good to do something bad as long as it is for a good reason?

(lots of hands)

This excerpt is the same as Box 9Ai1.a. The significant point to make is that conversations about controversial issues are particularly good at eliciting opportunities for children to express their commitment to the need for change. Although this encounter does not exemplify change that is taking place, it does exemplify willingness to effect change. This is significant as it highlights one of the ways in which action competence theory has been adapted to develop a usable analytical framework for this research. More specifically, in action competence theory there is a strong emphasis on the need for participants to be involved in planning for and affecting change; in this research a willingness to

affect change and some understanding of what this might involve was considered sufficient. This decision is justified by the link made by this research to citizenship education and the development of active citizenship attributes. In citizenship education, the willingness to affect change and some understanding of what this might involve is considered appropriate. For example, a learning outcome of the KS2 curriculum for citizenship education states that children should have the knowledge skills and understanding to enable them '*to face new challenges positively by collecting information, looking for help, making responsible choices, and taking action'*. A willingness to affect change is a necessary adjunct to achieving this learning outcome.

d) Applying knowledge gained elsewhere

In general this subcategory was prevalent in planning sessions because to be able to contribute to a whole group discussion where a plan for, for example the Minibeast City, was being devised, the members had to draw on what they already knew. Hence being able to suggest what insects are likely to appear in the Minibeast City necessitates knowledge about local insects. Such excerpts do not add much in terms of richness to this analysis so have not been included. The excerpt that follows shows how the teacher's approach in encounters with a planning enabled opportunities for the development of attributes in the experiential understanding attribute set to emerge.

Box 9Ai2.b) Excerpt to illustrate the impact of the whole group activity focus on planning on coding for applying knowledge gained elsewhere.

Tic1: Ruby just asked a very interesting question. Ruby?

Ruby: I asked whether this was a real car tyre or not.

Coco: yes it is,

Tic1: yeah it was a real car tyre. pass it round have a feel, feel the black stuff

2+ Speakers (it's a tyre it's a tyre... it is)

Tic1: one at a time, it is what do you think Chloe,

Chloe: it is part of a tyre

Tic1: good, can you think of anything else that you could use care tyres, Tina?

Tina: a purse

Tic1: yeah, absolutely you get people who have purses made of tyres.

Sophia: you can make like tyre swings coz I have got one in my uh

Tina: oh yeah, tyre swings.

Tic1: you can make like tyre swings but is that, would that be recycling? what is the difference between a pencil case and a tyre swing?

Rosa: well, with the pencil case they actually change it into something but with the tyre swing you just attach some rope or whatever so you are not actually changing the tyre into something because it is still a tyre

Tic1: that is true and you get a different use aren't you

Mark: it is reusing not recycling

Tic1: that is exactly right, it is reusing not recycling. so we have recycled it into something different but we would be reusing it as a tyre.

Tic1: but we would be using the tyre as a tyre. can you think of other interesting thing that are made from recycled so something that they have changed into something completely different. Snowy:

Snowy: um fleeces are made out of plastic and um they are still very soft and they are made out of plastic

Tic1: has anyone else ever seen that you can take a water bottle and turn it into a jumper.

(some people saying no...)

Tic1: ok I will see if I can find a picture, (*looking on internet to project picture onto wall*) they are quite expensive but let's see plastic bottle fleeces. Let's see but they are sometimes very cool looking... is there anything else that involves something being changed quite dramatically to make something new? yes?

David: I huh I think I know how they make them. do they get the nylon bottles and then make it into like tights for your socks stuff ... so that like fabric stuff

Tic1: that is a really good idea, how do you think they do that? I think you are thinking along the right lines. tell your partner how could they do that?

(*lots of very loud and enthusiastic chatter*)

Sophia: um you would probably like melt it down and add some stuff to it.

Snowy: they get melted down and then these really brainy thingies turn it into something. It's a bit like it's not exactly the same but …

Tic1: they melt it down and then pour it into a jumper shape

(*laughter*)

Snowy: they would just be again... they probably like add some chemicals and stuff

Tic1: Daisy what do you think? we have got all these plastic bottles melted down and then some chemicals added... what do you think they do?

Daisy: hmm not sure

Tic1: how do we get from a sheep to a jumper?

2+S: (huh ooo ooo !)

Tina: they shave off the wool they um and they keep on like making um they sew it into a jumper shape.

Tic1: what do they have to do to the wool first?

Sophia: Um I think what they do is they make it into a long thin bit of thread...

Tic1: so they make the plastic into a thread. good can you think of anything else that is made of plastic bottles like that?

This excerpt is particularly interesting because it shows how the teacher in this group allowed the children to determine the direction of the conversations; thus sometimes a planning session would include a lengthy discussion about a different but related issue. These discussions quite often elicited opportunities for children to apply the knowledge they had gained elsewhere. It is noteworthy that this outcome it a combination of both the whole group focus on planning and TIC1's approach to enabling the children to determine the direction of the group's work. These reflections will be elaborated in the theme, *teacher motivation and approach* that follows later in this chapter.

e) Drawing on past experience to suggest alternative solution and d) Recounting past experience

The excerpt selected to exemplify the links between the coding categories: *drawing on past experience to suggest alternative solutions* and r*ecounting past experience* with the theme*: whole group planning focus* is taken from Session 16 in the encounter where the group were discussing how they would proceed with the Minibeast City project.

Box 9Ai2.c&d) Excerpt to illustrate the impact of the whole group activity focus on planning on coding for drawing on past experience to suggest alternative solutions.

> Rosa: well um when I went out somewhere there was this cool ant room and it was a butterfly world and basically there was this rope and they just walked across it they were leaf cutter ants and they just walked across it because the wire holding the, the bits of wire holding the ropes up had like garlic spread on it and they don't like that. And then underneath it had rippling water and they don't like that either and they just walk across the rope, so you could see them and then go into their tank.

It is clear from reading the excerpt that the individual is recounting a past experience, hence the excerpt is coded as *recounting past experience*. What is not so clear is how this can be coded as *drawing on past experience to suggest alternative solutions.* The excerpt is taken from an encounter comprised of a whole group discussion with a planning focus about the design of Minibeast City. In this instance knowledge of the full encounter is required to encode the encounter. Such knowledge was gleaned from my role as participant observer and was recorded in the field notes and observation schedules kept during the data collection phase.

The excerpt is a particularly striking example of how these encounters could elicit re-actualisation of experiences; particularly in the atmosphere where the teacher allowed time for a full description of the experience to be manifested. In this encounter, TIC1 allows the group member to describe the full encounter, but this is not always the case. Notwithstanding, even when re-actualisations are not fully expressed, they are being elicited so the data are sufficient to show how participation in Eco Clubs affords opportunities that can contribute to children's developing action-competence-associated attributes.

2. e) Envisioning

Table 9Ai.2 shows that encounters in this theme (i.e. whole group focus) effectively elicit opportunities for developing the attribute: *envisioning*.

Appendix 7

Box 9Ai2.e) Excerpt to illustrate the impact of the whole group activity focus on a controversial discussion on coding for envisioning.

Tic1: ummm yes.. you have always got to make a compromise. If you want something, you need to give something. You can't get anything for free. you can't have fields of sunflowers without talking something away... Mark?

Mark: it was in this book... about one day they might have cities in space where they will be able to grow plants.. so you could because the universe is so big you could just build a massive you could

Tic1: so should we just stop driving until we get that city in space?

2+Speakers: (ummm no no no)

Tic1: if we if we took our grounds at school and took down all the playgrounds and the conervation area

2+Speakers: *no no Huh no not that!!!*

Tic1: and just planted sunflowers seeds we could probably get enough oil in a year so that Ht1 could drive home one day... he might not get all the way home. he lives about an hour away.

2+Speakers: *(lots of laughter... hahahd; loud chatter*)

Sophia: there is no point doing that there is no point using the schools so Ht1 could get home.

This excerpt was selected because it exemplifies an encounter where an individual takes/creates an opportunity to express his vision (*it was in this book... about one day they might have cities in space where they will be able to grow plants.. so you could because the universe is so big you could just build a massive you could...*); it also shows how the teacher can provide opportunities for the whole group to envision different scenarios through the way she manages the discussion. Each question that she asks is designed to give all members of the group the opportunity to think about what would happen in different scenarios

using what if questions. This is elaborated on later in this chapter in the theme: *teacher motivation and approach* which forms part of the cross case comparison.

iii. 9Ai.3 – Sub group focus

The Sub group were also categorised according to their focus. Table 9Ai.3 identifies the fact that task-based Sub group provided opportunities for the development of the greatest range of attributes in this category.

Table 9Ai.3) – Tabulating Sub Group Focus and the coding categories for Experiential Understanding

Experiential Understanding	**A : activity based activity**	**B: Planning-based activity**	**C : research-based activity**
applying knowledge gained elsewhere	Yes	Yes	Yes
making connections to other	No	No	No
drawing on past experience to suggest alternative solutions	Yes	No	No
recounting past experiences	Yes	Yes	No
re-evaluating past events or remembering plans not carried out.	Yes	No	No
making change	No	No	No
change (stating willingness to change)	No	No	No
learning about what it means to take action	No	No	No
taking action only	No	No	No
envisioning alternative outcomes	No	No	No

envisioning alternative solutions (2)	Yes	Yes	Yes

Since this theme is not very effective at eliciting the coding categories in this set (i.e. Experiential Understanding), only one excerpt is included which evinces coding for both *drawing on past experience to suggest alternative solutions* and *recounting past experiences.*

Box 9Ai3) Excerpt to illustrate the impact of the Sub group with a task-based focus on coding for *drawing on past experience to suggest alternative solutions* and *recounting past experiences.*

Maya: I know somewhere on the field that you can find loads of woodlice,

Tina: where?

Gaynor: shall we write there ladybirds?

Tina: maya can lead us because we don't know where we are going.

Maya: once when there was a this ... I saw loads of

Sophia: oh, I know a really really good place to find millions of bugs. Follow me! Follow the snail tracks and see where we go.

Box 9Ai3 is an excerpt from an encounter in an task-based activity where the children worked with an adult facilitator to complete a bug survey of the school grounds. This activity included a number of encounters involving reference to knowledge about where bugs might be found based on the children's experiences of the school grounds. The excerpts evinces how the children in this Sub group use the knowledge gained from their experiences to suggest where bugs might be located, thus giving them the ability to suggest alternative solutions to the problem of where to find the bugs. The task-based focus provided them with the opportunities to develop the attributes in these categories through necessitating the recall of experiences with bugs in the school grounds then necessitating the

expression of these experiences to enable the successful completion of the activity.

c. Section 9Aii – Knowledge

This attribute set constitutes coding of data that represents knowledge relevant to the encounter in which it emerges. There is some overlap with the coding for *experiential understanding*. As mentioned previously, the analytical framework for the etic aspect of this research (See Appendix?) was developed from the findings of research into programmes of teaching based on an action competence approach, hence there are categories in the framework that refer to knowledge about *local* environmental issues and people. This research identified very little knowledge that was specific to the local environment because Case 1 did not limit its focus to local environmental issues. For this research, the *Knowledge* category was modified to include references to knowledge relevant to the encounter that elicited the knowledge.

Additionally, the framework varies from the literature in the introduction of the terminology of familiarity. This enabled coding of encounters where the group was exposed to knowledge by participating in the encounter or by listening to a discussion of a controversial or other issue. It also allowed for instances where children were asking questions about an issue to be coded in this category. The process of questioning and being given a response clearly does impact on the knowledge of the individuals involved but it is not possible to say whether this is in the form of providing them with new knowledge or not as it is not possible, through observation, to ascertain this impact. It does, however increase their familiarity with the topic of discussion, investigation or action. Increased familiarity is unequivocally an aspect of knowledge, hence it has been included in this category.

i. 9Aii.1 Group Arrangements

Table 9Aii.1) – Tabulating *Group Arrangements* and the coding subcategories for category*: Knowledge*

Appendix 7

Values/ coding subcategories	individual work	Sub group work	Whole group work
1 : applying knowledge gained elsewhere	Yes	Yes	Yes
2: making connections to other	No	No	Yes
3 : conflicting ideas	No	No	Yes
4 : increased familiarity with issue	Yes	Yes	Yes
5 : increasing knowledge about an issue	Yes	Yes	Yes
6 : Knowledge about problem	Yes	Yes	Yes
7 : local conditions and opportunities	No	No	Yes
8 : local environmental people	No	No	Yes
9 : Local issues	No	No	No
10: Possible solutions	No	No	Yes
9: validity and reliability of knowledge and information	No	Yes	Yes

The table above clearly identifies that the group arrangement: *whole group work* provides opportunities for the development of the greatest range of the attributes represented in the categories in the *knowledge* set. When taking into account the fact that local issues were not a specific focus of this group (and thus discounting that category), whole group work provides opportunities for the development of all of the attributes in this set.

To simplify the exemplification of the categories in this section I will treat them as follows:

Data Processing

Category	Aggregation of categories
Conflicting ideas	a) Conflicting ideas
Increased familiarity with issue, increasing knowledge about an issue, knowledge about problem, possible solutions	b) Increased knowledge about an environmental problem or issue
local conditions and opportunities, local environmental people, Local issues	c) Local knowledge
Validity and reliability of knowledge and information	d) Validity and reliability of knowledge and information

1. 9Aii.1.a) Conflicting ideas

Box 9Aii.1.a) excerpt to exemplify the opportunities for developing the category: conflicting ideas

Tic1: but do you think that it is a good idea that we take car tyres and smash them up and make them into something new?
2+S: *yes, yeah*
Tic1: doesn't it take an awful lot of energy and a lot of time and a lot pollution to…?
Mark: oh yeah it makes pollution
Snowy: huh, that is what I was just about to say!
Tic1: Oh, Snowy, sorry about that. I have jumped ahead of you. Do you not think

it takes a lot of pollution to make them into that?

(*lots of chatter*...)

Tic1: I am going to ask Daisy about that.

Daisy: it is quite good because it stops like polluting and it's quite bad because it could be someone's like tyre and they are taken off someone.

Tic1: um that is quite an interesting idea but I don't think they take anyone's tyre off them...

Daisy: and, and um… if we take loads of cars and take all their tyres and turn them into pencil cases we can get rid of a few dumps.

Tic1: so by turning them into pencil cases we wouldn't be putting them into dumps... that is a good thing. That is true. Rosa?

Rosa: Um I am not sure because it would be using a lot of electricity and like other stuff to like make it but… which pollutes the world but then it is good because you are recycling it and not doing other pollution and so both ways it is probably polluting the world.

Tic1: but on balance it is probably better?

Rosa: I am not sure, hmmm probably...

Tic1: ok, well that was a bit of a diversion, but that is ok.

Session 20

The excerpt above was taken from an encounter involving a whole group discussion as part of a planning session. This encounter does not fit strictly into the themes developed thus far, because the subject of the discussion is not planning itself, as suggested by the Tic1's comment: 'well that was a bit of a diversion'. Nonetheless, the encounter is a whole group discussion so it is relevant to the theme, group arrangements.

The excerpt clearly exemplifies the way that the children in the club are aware of the complexities and conflicts involved in such as recycling. Despite some level of confusion evident in the data: 'it is quite good because it stops like polluting and it's quite bad because it could be someone's like tyre and they are taken off someone', it is clear that the children are not only aware of the conflicts involved but are able to express them in the group context. The whole group encounter managed in this way by Tic1 exemplifies the opportunities created for the children to develop the attributes associated with the set: *knowledge*.

2. 9Aii.1.b) Increased knowledge about an environmental problem or issue

The excerpt in Box 9Aii.a also exemplifies how whole group encounters provided opportunities for the development of the attributes: *increased familiarity with issue, increasing knowledge about an issue, knowledge about a problem* and *possible solutions*. In this encounter, there were opportunities for children who already knew something about these issues of pollution to develop this through increasing their familiarity with the ideas involved. For children who had little prior knowledge the encounter provided them with an opportunity to both discuss and hear about the issues, hence providing them with an opportunity to develop their knowledge about both issues and problems in this arena. The discussion in this encounter was elicited by a child's question about Tic1's pencil case. The pencil case itself represents a possible solution to the problem of tyres in landfill sites, thus the encounter provided the children with an opportunity to develop their understanding of the kinds of solutions that are considered plausible.

3. 9Aii.1.d) Validity and reliability of knowledge and information

It was difficult to code the category *validity and reliability of knowledge and information* in whole group discussions. In whole group discussions the teacher was the usually the source of knowledge. Although the children in the club were quite happy to critically appraise what she was saying (see the *critical thinking*

subcategories in the next section), coding for this category based on how the group members responded in the majority of these encounters would have involved a level of interpretation that may have invalidated the coding. Nevertheless, the excerpt below drawn from a conversation between myself and the group following one of the group's discussions of a controversial issue shows that the children were at the very least aware of the possibility that some level of exaggeration might be taking place. It makes clear that the children in the group are aware that some of what they discussed was exaggerated and so it is plausible to infer that this awareness had been present during other encounters too. Here exaggeration is indicative of questioning the validity and reliability of the knowledge they are exposed to during the sessions. Again, although just one child uses the word, all of the children are exposed to the conversation. Moreover, my knowledge of the group as a participant observer gave me the impression that they were attentive during the encounter so were listening (and hence participating). Thus, not only did this encounter provide the opportunity to question the validity and reliability of knowledge but it also indicated that the children were likely to have done so previously; and were able to do so without disengaging from the club's and aims.

Box 9Aii.1.d) excerpt to exemplify the opportunities for *questioning validity and reliability of knowledge*

Sophia: if all this continues the world will just be like gone and everyone will be dead. and um Year 4 are looking at the rainforest thing and um we watched this advert and um it said that in 40 years the rainforest will be gone and without the rainforest we would all die… so um and pretty much, well and um… then I would be 48 which isn't a nice thing to know, that basically I would be very ill at the age of 48.

Me: Um I think a lot of things that you are learning about you are learning about so that you can be convinced to try and do someting about and sometimes that I mean and I mean I wouldn't say it was made up but

Rosa: exaggerated

ME: it is exaggerated. Do you understand? I think that there are and I think that what Tic1 said about you people learning about this and being in eco clubs is so important because it does mean that you can change things, doesn't it? but try to keep a level head about it, I think that is really important to say.

Session 24

ii. 9Aii.2 Whole Group Focus

Table 9Aii.2) – Tabulating *Whole Group Focus* and the coding categories for*: Knowledge*

Values/ coding subcategories	Controversial issue discussions	Planning-based discussions	Plenary based discussions
1 : applying knowledge gained elsewhere	Yes	Yes	No
2 : making connections to other	Yes	No	No
3 : conflicting ideas	Yes	No	No
4 : increased familiarity with issue	Yes	Yes	Yes
5 : increasing knowledge about an issue	Yes	Yes	Yes
6 : Knowledge about problem	Yes	Yes	No

7 : local conditions and opportunities	No	Yes	No
8 : local environmental people	No	Yes	No
9 : Local issues	No	No	No
10 : Possible solutions	Yes	No	No
9 : validity and reliability of knowledge and information	No	No	No

The table reveals that plenary discussions are not very effective at eliciting categories in this set. It appears that planning discussions and controversial issue discussion have an equivalent impact in terms of the range of opportunities that they elicit.

In this section I will confine the exemplification of the table to the categories*: local conditions and opportunities* and *local environmental people* that emerge in the theme *planning discussions*. The other categories have been sufficiently addressed elsewhere. Moreover, the excerpt selected here is one of only three references to either of these two categories in Case 1. Hence, this serves to illustrate the point that, in Case 1, there was very limited focus on issues or problems of a local nature.

Box 9Aii.2a) excerpt to exemplify the opportunities for *gaining knowledge about local environmental people* and *local conditions and opportunities.*

Tic1: I was thinking more do we need to get someone from the council who knows about the parks who can help or do we need to get like a bee keeper in and if we do then we need to write a letter. Or do we need to get someone to give us something? ok, because Buggingham Palace is a lot of pallets one on top of the other. So where are we going to get the pallets from? Somewhere…

Session 16

Data Processing

This excerpt is taken from a whole group discussion planning the Minibeast City. It is interesting because it shows how the activity planned for encouraging wildlife on the school grounds has the potential to draw on help from members of the local community. Thus the Eco Club becomes embedded in the community through being known to people beyond the school stakeholders (i.e. pupils, teachers, parents, and other individuals who are directly linked to the school).

iii. 9Aii.3 Sub Group Activity Focus

Table 9Aii.3) – Tabulating *Sub Group Activity Focus* and the coding categories for: *Knowledge*

Values/ coding subcategories	**task- based activity**	**planning-based activity**	**research-based activity**
1 : applying knowledge gained elsewhere	Yes	Yes	Yes
2 : making connections to other	No	No	No
3 : conflicting ideas	No	No	No
4 : increased familiarity with issue	Yes	Yes	Yes
5 : increasing knowledge about an issue	Yes	Yes	Yes
6 : Knowledge about problem	Yes	No	Yes
7 : local conditions and opportunities	No	No	No
8 : local environmental	No	No	No

people			
9 : Local issues	Yes	No	Yes
10 : Possible solutions	No	No	No
9 : validity and reliability of knowledge and information	No	Yes	Yes

This table reveals that the range of categories coded in this set is low relative to other themes. However, for the value *research-based* the range is high relative to the impact on the *experiential understanding* set where only two categories were coded.

Box 9Aii.3.a) excerpt to exemplify the opportunities for *gaining knowledge about* and *increased familiarity with a locally contextualised issue* and *validity and reliability of knowledge and information* in *sub group* with a *research-based focus*

Sam: can I make a wormery? can I make a wormery?

TIC1: I think a wormery would be an interesting thing to have, wouldn't it? can we make a big wormery? that would be interesting, so if you think a wormery would be a good thing to have as part of our hotel then that would be great. Find out some information about a wormery.

Sam: burrows, how do we make burrows

TIC1: on the computer, we know that sometimes its not very reliable information. Books are more reliable because, they are not going to publish a whole book and spend a whole lot of money on it if they are not going to get it right.

The excerpt chosen to exemplify the data in Table 9Aii.3) is taken from an encounter where a Sub group of four children were researching what sorts of insects were common in the region of the school, and how they could be

attracted to the space. The children were using books provided by the teacher to achieve this. The dialogue reveals how the child in the discussion gets the opportunity to consider the *validity and reliability of the knowledge and information* he is researching. Because this is a conversation that takes place in a Sub group setting, the other children in the group are also exposed to the discussion. They are therefore also given the opportunity to develop this attribute.

Knowledge of the full encounter allowed for the coding of the two categories *gaining knowledge about an issue,* and *increased familiarity with an issue*. The information the children found out through reading the books and the discussions engendered by this reading, provided opportunities for developing both categories in relation to the issue: how to attract insects suited to the local environment to the Minibeast City. The fact that the knowledge was relevant to the local region also allowed for the coding of the category: *local issues*. It is worth noting that the way I apply the word *local* in this research varies from the way it is applied in action competence literature. In action competence literature, *local* appears to refer to issues in the local community outside of but surrounding the school. In this research I have also applied it to the school itself as the school is clearly local to the children it serves. Furthermore, in this example, insects will be attracted to the school will also be attracted to the area surrounding the school, making *local* relevant in terms of the school and its surroundings.

The category *applying knowledge gained elsewhere* is elicited by all three of the items in this theme. Box 9Ai3 above is an excerpt from a task-based activity that reveals how the value: *task-based activity,* elicits this category.

Box 9Aii.3.b) excerpt to exemplify the opportunities for developing the category *applying knowledge gained elsewhere* in with a *planning-based focus*.

Mr I: You have already made the sun have you? So there is the light from the sun goes onto the solar panels and the solar panel uses that to generate electricity. And that powers our homes.

Appendix 7

Tom: maybe we could like put it on the solar panels like heat?

Mr I: or like light rays? That sounds like it would be a really good, I think. And also, have you heard of this word renewable? Is that a word you guys know?

David: I've got and ...

Mr I: the most coolest thing about a solar panel is that it

David: its everlasting

Mr I: that's right

David: Until the sun runs out

Mr I: and that won't be for a very very very long time so once it's up it stays there and electricity is free

This excerpt is taken from an encounter in a planning-based activity for a solar panel display. In this instance, the involvement of the adult facilitator enabled the expression of the knowledge gained elsewhere. What is striking is that David is well aware of the discrepancy between the word he uses (everlasting) and the fact that the sun will eventually 'run out'. This is a revealing example of how the children in this group questioned the validity and reliability of the knowledge they were exposed to. David is clearly aware that although he has been taught that this is a renewable source of energy that is said to be everlasting, this is not strictly true as the sun is not, in fact, everlasting. The sub group activity with a planning focus provided him with an opportunity to express this.

These excerpts conclude the section on the Knowledge set of attributes. In the next section I address the skills set.

d. Section 9Aiii – Skills

The set of attributes for Skills contained 48 items. This is due to the fact that, in this set (as in others but to a lesser extent) some of the categories (for example, critical thinking) had a significant number of subcategories (critical thinking had seven subcategories). To enable clarity in the tabulating of the data the

categories are treated separately below. In NVIVO10 each of the categories aggregates the coding from the subcategories. The sections will be organised according to the themes as follows:

- 9Aiii.1 Knowledge and Group Arrangements
- 9Aiii.2 Knowledge and Whole Group Focus
- 9Aiii.3 Knowledge and Sub Group Focus

Each section is divided into subsections according to the categories representing the attributes in the knowledge set, as follows:

a) Discussion and Problem Solving

b) Communication

c) Critical Thinking

d) Leadership

e) Reflection

f) Envisioning

g) Research Skills

h) Teamwork

There is some variation around these subdivisions as a result of the excerpts chosen to exemplify the attributes represented in these categories. However, this is explained in the text accompanying the excerpts. At the beginning of each (theme) section is a table with the aggregates for all of the categories to provide an overview of the analysis of the data for the theme. No further signposting is used in this section.

i. 9Aiii.1 Group Arrangements

Table 9Aiii.1 contains these aggregates alongside the two categories (namely *discussion* and *problem solving*) that were not subcategorised.

Appendix 7

Table 9Aiii.1) – Tabulating Group Arrangements and the coding categories for set: Skills

Group Arrangement/Coding categories	**Individual work**	**Sub group work**	**Whole group work**
1 : communication aggregate	Yes	Yes	Yes
9 : critical thinking aggregate	Yes	Yes	Yes
19 : Discussion	No	Yes	Yes
20 : Leadership aggregate	Yes	Yes	Yes
26 : problem solving	Yes	Yes	Yes
27 : Reflection aggregate	Yes	Yes	Yes
34 : envisioning aggregate	No	Yes	Yes
38 : Research Skills aggregate	No	Yes	No
42 : Team work aggregate	No	Yes	No

Opportunities for developing the categories in this set are prevalent in both whole group work and sub group work, as evinced by the table. In the table the theme: *individual work* is somewhat misleading for the reasons mentioned earlier (there was in fact very little *individual work* taking place and that which did occur was what I have called *parallel working* where children worked alongside each other on separate but analogous such as poster design).

a) Group Arrangement and Discussion and Problem Solving

The first excerpt below was selected to exemplify the two categories (discussion and problem solving) that did not have any subcategories. In Case 1 discussion was a highly prevalent feature of most of the work that took place so it is difficult to link it to any particular theme. As such the excerpts selected were chosen for

their exemplification of problem solving linked to discussion skills. Problem solving in this research refers to opportunities where problems were concretely linked to in the group. Therefore, discussions about problems at a more general level (such as what adults should do about climate change) were not coded as developing problem solving skills.

Box 9Aiii.1 – Excerpt to exemplify the opportunities for developing the categories *discussion and problem solving* in a *Sub group work settings.*

Tip: I could put flowers around the beehive

Me: flowers, right you are still thinking about this beehive, aren't you?

Snowy: but we want it.

Me: I understand what you are saying... is that a bee hotel? How about that?

Snowy: but it would still have to be…

Me: yeah, but it is really small so there wouldn't have to be so many

Tip: we could make like three of them

Me: we wouldn't have so many bees and that is the main problem

Snowy: and then we can plant the flowers and then before we even have the bees we have got flowers and then…

Me: umm yes, that's it! now you are thinking and now you are developing a two year plan, at least

Snowy: and then flowers are all already ready and you have got little holes in the um

Daisy: forget-me-nots sometimes

Me: ok, so basically we have come from this idea of a hive but now we are thinking about something more like this which is more just small-scale,

Appendix 7

Snowy: I still want a hive!

Me: I know Snowy, I don't think you should give up on it…

Session 16

The excerpt above is taken from an encounter in the context of a planning-based activity. The children in the group were deciding how they would design their bee hotel. It is noteworthy that the children were really determined to have a hive rather than a hotel. The purpose of the hotel is to encourage solitary bees that are said to be in decline locally and nationally. However, the children were very keen to have a hive with the potential to produce honey. In this case the goals of the teacher and the children were at odds so it took some time to reconcile the group to the idea of a hotel that might develop into a hive over a period of time.

In this encounter, the impact of theme: group arrangement: *Sub group work* is inextricably linked to the theme focus: *planning-based activity*. The children formed the group because they chose to plan a bee hotel. Thus, they share a common interest and goal. This means that they involve themselves in the discussion to enable them to achieve the goal. The planning-based focus necessitates discussion to enable the plan to be devised. So a sub group with a shared goal of devising a plan (for a bee hotel) about something in which they are personally interested (bees) elicits opportunities for the developing of discussion skills.

The *problem solving* element in this excerpt is how to overcome the health and safety concerns associated with having a bee hive in the school. The children do not lose sight of their goal to have a hive but come to accept through the discussion that starting with a hotel can lead them to a hive via the planting of the appropriate flowers. The *problem solving* element is an outcome of the sub group arrangement (each child in the group would like the hive to be final product and this conflicts with the health and safety considerations put forward by Tic1) and the planning-based focus of the activity. The planning focus enables them to discuss the problem amongst themselves and with me. If they had simply been told to go ahead and make a hotel they would not have had the

opportunity to raise the issue of the hive at all, hence there would have been no opportunity to develop their problem solving skills.

The following tables treat the categories separately; excerpts are selected to exemplify as many of the subcategories as possible in each case.

b) Group Arrangement and Communication

Table 9Aiii.1.a – Tabulating Group Arrangements and the coding subcategories for category: Communication

Group Arrangement/Coding subcategories	**Individual work**	**Small group work**	**Whole group work**
2 : communication only	*Yes*	*Yes*	*Yes*
3 : listening	*Yes*	*Yes*	*Yes*
4 : make a poster	*Yes*	*Yes*	*No*
5 : make a video	*No*	*Yes*	*No*
6 : persuasion	*Yes*	*No*	*Yes*
7 : talk about subject	*Yes*	*Yes*	*Yes*
8 : write a blog	*Yes*	*Yes*	*No*
9 : write an email	*No*	*No*	*No*
10 : write letters	*Yes*	*No*	*No*

In this instance, the focus on presence and absence rather than number of references to a subcategory is somewhat misleading. The table reveals that individual work elicits opportunities for the development of the greatest range of

subcategories in this category. Whilst this may be true, it is also true that the group work elicited the greatest number of opportunities for the development of the subcategories in this category.

However, individual work is underrepresented in the analysis so far. Hence the excerpts below include examples of individual work which describe the kinds of opportunities that emerged for the development of communication skills in this club through the use of excepts from pertinent encounters.

Box 9Aiii.1a – Excerpt to exemplify the opportunities for developing the subcategories of *communication: listening* and *talking about a subject*

Tic1: now this one is a bit tricky because it has a hole in it so we have to be careful about holes.

Chloe: you could stick a pompom in it

Snowy: I was thinking that you could tie a knot in it so have the head where that hole is

Tina: no coz you need the tail at the bottom so it can absorb a lot of water

Tic1: if you find like Tina's that you have got a lot of um tail...

Tina: yeah that is what I did

Session 21

The excerpt in Box is taken from an encounter in which the children are being told how to make grass heads. The fact that they will be making them individually necessitates listening from each member in the group. Each individual is dependent on her/his own ability to understand and remember the instructions they are receiving if they are to successfully complete the activity. If they had been working in groups for this activity there would have been less need for each individual to listen to the instructions as others in the group may have been able to take on the listening role.

Data Processing

This club had an Eco Blog. The main contributor to the blog (Mark) did so mostly on his own. The development in the blog over the year during which this research took place, is evidence of how participation in this club provided him with an opportunity to develop this subcategory of his communication skills. It is noteworthy that blogging was a skill that only a Sub number of the individuals in the club developed. However, the blog was read by all the children at different points over the year. In this way, the existence of the blog raised awareness amongst the children of different forms of communication they could engage in.

Box 9Aiii.1b – Excerpt to exemplify the opportunities for developing the subcategories of *communication: persuasion* and *writing a letter*

Snowy: Hello

Me: hello; I am going to come and see how your letter is coming along too

Snowy: I still need to get it that was kind of like the first rough copy and then this is the second rough copy and then because this one was like we need all the change of speech and sentences and I had put stuff that didn't make sense in it and is just a waste of time so yeah so I still need a bit more

Me: ok, so you still need to do a bit more work

Session 17

The excerpt above was taken from an encounter in which one child is writing a letter to a beekeeper to persuade her/him to come into the school to talk about bees and beekeeping to the children. The excerpt itself does not illustrate *persuasion* so well but the activity itself did. Although this was an example of the group arrangement: individual work, the letter was read out to the whole group at the end of the session during the plenary. The purpose of reading the letter out was to give other club members the chance to contribute to the letter. In the process of doing this the opportunity to learn about *letter writing* and *persuasion* emerged for the whole group.

Other subcategories in this set are not exemplified here because the transcripts of the dialogue of the is not particularly revealing but may emerge later for other reasons.

c) Group Arrangement and Critical Thinking

Table 9Aiii.1.c – Tabulating Group Arrangements and the coding subcategories for category*: Critical Thinking*

Group Arrangement/Coding subcategories	**Individual work**	**Sub group work**	**Whole group work**
12 : challenging authority	*No*	*Yes*	*Yes*
13 : critical thinking only	*Yes*	*Yes*	*Yes*
14 : identifying deceit	*No*	*Yes*	*No*
15 : identifying opportunities for foul play	*No*	*Yes*	*Yes*
16 : identifying undesirable outcomes	*Yes*	*Yes*	*Yes*
17 : suggesting improvements	*No*	*No*	*Yes*
18 : trustworthiness of sources	*No*	*Yes*	*No*
what if questions			*yes*

The table shows that sub group work was particularly effective at eliciting the critical thinking subcategories; whole group work also provided opportunities for eliciting a range of these subcategories. The excerpt below is selected because it exemplifies a three of the subcategories in this category during a whole group discussion.

Box 9Aiii.1c 1 – Excerpt to exemplify the opportunities for developing the subcategories of *critical thinking: critical thinking*, *challenging authority* and *identifying undesirable outcomes* in the group arrangement: *whole group*

TIC1: ok this little video is not very long it is only about four minutes long it's just a little video about what they have been doing, Greenpeace and Eco Warriors in the arctic and so I am going to let you watch it and then I am going to explain a little bit and see what you think. Sam?

Sam: umm can't you get electric cars now so that

TIC1: you can you can we have got a little leaflet about that if you want to find out some more

Mark: yeah but they are not good because they come from like a power station that emits ...

Snowy: really?

Mark: yeah!

TIC1: depends how you make your power, doesn't it?

Belle: if you had solar power in your house

TIC1: if your electricity came from solar panels?

Snowy: oooo you could…

Session 13

The excerpt above is taken from an encounter involving a whole group discussion about a controversial issue (i.e. illegally boarding a ship to protest). This short excerpt is interesting because it shows how Mark used the discussion to raise an issue about electric cars that is unrelated to the conversation at hand so draws on

knowledge he gained elsewhere to challenge the authority of teacher. It also shows how *critical thinking* (and *identifying undesirable outcomes*) on his part in this instance is a learning experience for Snowy who is clearly impressed by the knowledge she has gained here. Moreover, knowledge about solar panels that had been developed during earlier sessions re-emerges here in this discussion. This excerpt illustrates not only how these whole group discussions provided opportunities for the development of critical thinking and its subcategories, but also how critical thinking is sometimes linked to the development of attributes associated with *knowledge* in this research.

The next excerpt is included here because it is an example of how the theme group arrangement (sub group work) provided opportunities for the development of critical thinking and its subcategories. This excerpt is repeated later as it also exemplifies the opportunities that the sub group focus: task-based affords for developing the subcategories of critical thinking.

The category critical thinking is explained is explained in Chapter 10 case. It is important here to explain why the foul play and deceit were included in this category. The two subcategories very similar and might have been coded together.

Box 9A.iii.1c 2 – Excerpt to exemplify opportunities for *developing critical thinking: identifying opportunities for foul play, identifying deceit*, and *challenging authority* in the *group arrangement*: *sub group work*.

Cocoa: put the music on first

Mark: no, we are going to play the music on in the background on a different computer,

Cocoa: oh right,

Mark: because we can't download it, coz Tic1, I don't think she will let us use an illegal download music site.

Cocoa: it's not illegal

Mark (and Rueben): yeah it is. its illegal, its illegal

Cocoa: it's naughty, but not illegal

Sam: it is illegal, some music businesses...

Mark: no, because that mega uploads thing got closed down and they said that everyone who has been on it is gonna get arrested

Sam: I've been on it though

Mark: and they said that they know everyone's IP addresses and they can find out your address and they said they are gonna arrest everyone who has been on it and then

Sam and I... I have, have been on it.

Cocoa: but how can they arrest everyone who has been on it?

Cocoa: coz guess what, a million different different people a million new users come on every day and something like ten million people use it.

Sam: You can't now because when you go on it there is just an image that says the US court has; the US court has taken the site down and they say because you have viewed the site your IP address has been taken and you will soon get arrested

Cocoa: no, I can't believe, I don't believe them and they don't

Sam: they can't arrest me anyway

Cocoa: why can't they?

Mark: yeah, because we are kids!

Sam: how old do you have to be to go to jail again?

Cocoa: 12 but beforehand you can get

Appendix 7

Sam: young offenders institution Session 14

In the excerpt critical thinking is exhibited through the identification of *foul play* and *deceit* on the part of the music industry and the authority of the US government is challenged. This excerpt is taken from an encounter in which a sub group of children are putting together video clips to make a film about a Green Day event that had taken place earlier in the year. The decision to add music to it was taken by the children themselves. In this excerpt, the discussion is almost incidental in that it arises from the activity and is not a planned or expected outcome. Here the children are working together without any adult intervention and it is their own idea to play music with the video. The excerpt exemplifies how the experience of working in a sub group affords opportunities for the development of cr*itical thinking* by allowing the children to interact in a group that would not otherwise have existed. It is the group arrangement that enables the conversation and thus the opportunities for critical thinking. However, in this example, the task-based focus of the activity enhances the opportunities for critical thinking elicited here (See Box 9A iii.3c. If the sub group had had a research or planning focus it is unlikely to have led to this conversation which afforded these opportunities for developing the subcategories of critical thinking as there would have been less need to think about the fact that downloading music from sites is illegal.

d) Group Arrangement and Leadership

The next tabulation evinces how leadership and its subcategories are drawn out through different group arrangements. The table shows that whole group work and sub group work are afford opportunities for the development of leadership skills.

Table 9Aiii.1d – Tabulating Group Arrangements and the coding subcategories for category: Leadership

Group Arrangement/Coding		**Sub group**	**Whole**

subcategories	**Individual work**	**work**	**group work**
21 : developing an understanding of what it entails	*No*	*Yes*	*Yes*
22 : Leadership only	*Yes*	*Yes*	*Yes*
23 : nominated by group	No	Yes	No
24 : nominated by teacher	Yes	No	Yes
25 : self volunteered	No	Yes	Yes

The subcategories in this category were included because they helped to illustrate how Tic1 encouraged participation in the club. There were very few opportunities for the children to nominate leaders of the projects, however, she did always give them the opportunity to volunteer to lead projects and then she usually used a method for randomly selecting the leader. Although this does not really vary very much in accordance with the themes identified in this analysis it was coded for in the data to illustrate how the teacher in this case tried to enable the children to participate fully in the club.

The example of leadership elicited by individual work is interesting as it is forms part of an activity in which children were working individually but in parallel with other children so a child who was explaining to the group how to make a grass head showed the leadership. It could be said that this is an example of group work as the discussion took place when the whole group stopped what they were doing individually to listen (as a group) to what she had to say. However, the characteristics of the overall encounter were that of individual working. The disparity in this arrangement is worth considering because if it were excluded individual work in this research would afford no opportunities for leadership and only the arrangements where children worked together on would be relevant.

Appendix 7

Box 9A.iii.1d – Excerpt to exemplify opportunities for developing *leadership: understanding what it entails, and leadership and self-volunteered* in the *group arrangement*: *sub group work*.

Snowy: can I just get something settled? Can I please be the project manager ... coz one of you can just and I never get to be but I will just will I won't just say I am the project manager so do this I will just say why don't you try this and if you don't want to do that…

Rosa: why don't we just leave it then and then we all get to be project manager?

Snowy: but can I please?

Tip: where is the folder for this one who folded them in?

Tip: (*talking inaudibly*....)

Snowy: Tip as well as writing down the things that we may need can you write down like um what sort of um tip can write down all the materials we may need and then um

Rosa: so what shall I write?

Snowy: you can write down plants

Rosa: no or stuff we need to get

Snowy: no Tip, is going to concentrate on habitat

Rosa: … stuff we need

Snowy: he is gonna concentrate on habitat.

Rosa: ok

Maya: this is one of yours it's a bee hotel.

Rosa: I have got that in one of my books at home.

Snowy: Rosa can concentrate on what we need to build a hive and then I could just be doing um something

Rosa: so what we need

Snowy: you could do for the hive and then Tip could do for the actual habitat like plants.

Rosa: uh, um ok.

Session 16

This excerpt is taken from an encounter involving a sub group of children who are planning how to make a bee hotel. The sub group work arrangement in this encounter is significant because it allows the child who wants to lead the group to explain her potential and talk about what she thinks leadership involves, thus affording opportunities for the other children in the group to learn about what leadership entails. In a whole group setting, she would not have had the opportunity to do this as the discussions would not have enabled this kind of dialogue to take place. The teacher would have asked children to volunteer but would not have given them the opportunity to explain how they would do this as she preferred a random selection system to select the leaders. In this instance, the group members are being asked to select the leader.

The next tabulation evinces that whole group work category affords opportunities for all of the subcategories of *reflection* to be developed. The same is true for *envisioning*. In the coding process in NVIVO10 envisioning was categorised as a subcategory of reflection. The process of thinking about and envisioning alternatives solutions to problems or envisioning alternative outcomes or plans involved the ability to reflect on what is being asked or on the problem at hand. Hence it is possible to put these two categories together. I have separated them in the tables below merely to enhance parity with action competence literature. However, the excerpt included to exemplify these categories handles *reflection* and *envisioning* together.

1. **e & f) Group Arrangment and Reflection and Envisioning**

Appendix 7

Table 9Aiii.1.e – Tabulating Group Arrangements and the coding subcategories for category: Reflection

Group Arrangement/Coding subcategories	**Individual work**	**Sub group work**	**Whole group work**
28 : conflicting opinions/ideas	*No*	*Yes*	*Yes*
29 : discussing a question	*Yes*	*Yes*	*Yes*
30 : planning a task	No	Yes	Yes
31 : plenary session	No	No	Yes
32 : reflection only	Yes	Yes	Yes
33 : revisiting learning from previous sessions	No	No	Yes
37 : weighing up right and wrong	No	Yes	Yes

Table 9Aiii.1.f – Tabulating Group Arrangements and the coding subcategories for category: Envisioning

Group Arrangement/Coding subcategories	**Individual work**	**Sub group work**	**Whole group work**
35 : envisioning alternative outcomes	*No*	*No*	*Yes*
36 : envisioning alternative solutions	*No*	*yes*	*Yes*

Box 9A.iii.1f – Excerpt to exemplify opportunities for developing *reflection and envisioning* through the group arrangement: *whole group work*

TIC1: Is there something that we could build up that we could look at, do you think? um what do you think, David?

David: um we could make like a wall of mud and with some glass holding it there. so you could see where the ants and or like the creepy crawlies are

TIC1: so are you thinking like an ant farm? or a wormery or something?

David: yeah.

Mark: um yeah but that would not really be underground... I mean your head would not be there

TIC1: what were kind of well, yes, your head would be here wouldn't it?

Mark: yeah,

TIC1: that is a really good idea but I am wondering if there is something we can do some way we can see that without having to dig underground.

Sophia: um we can make a periscope...

TIC1: well, unless you know how to make a periscope

Sophia: I know how to make a periscope you just take a cup and …

TIC1: well, you can keep that in mind and um, What do you think, Snowy?

Snowy: well, I was thinking kind of we could um just have a bit like a kind of um mazy thing not to kind of trick anyone but so that anyone can just kind of walk around just have like ways to get in and out and then just….

The excerpt above is taken from an encounter in which the whole group were discussing ideas for a piece of the school grounds set aside for building a Minibeast City. In this encounter, the whole group arrangement is significant because it is through this that all the children are given the opportunity to reflect on and envision different ways of building the city. If they were working

individually or in sub groups, the opportunities for reflection would have been limited to a small number of the children or to individuals; none of whom would have had access to the range of ideas exposed in this excerpt. Furthermore, the teacher would not have been there to guide their thinking or to enhance their ideas. It is through the whole group's interactions including the teacher's interjections that the opportunities for *reflection*, *envisioning alternative outcomes, discussing a question*, *planning an activity* and *dealing with conflicting ideas* emerge.

The subcategory *weighing up right and wrong* is not exemplified by the excerpt above but it was quite a common feature of the whole group discussions of a controversial issue. The excerpt in *Box 9Ai.1a* is a good example of how this worked. The excerpt below is taken from a different encounter involving a discussion about the use of foods for fuel. It illustrates the way in which the whole group arrangement including Tic1 can lead to the kind of reflection that affords opportunities for *weighing up wrong and right*.

Box 9A.iii.1e – Excerpt to exemplify opportunities for developing *weighing up wrong and right* through the group arrangement: *whole group work*

Chloe: how would get enough oil?

Mark: that means that everyone that wants to run their car on sunflower oil has to have their own field.

Tic1: you know what? That is a really good argument. Is there enough fields in the world for 9 billion people?

Snowy: not that many yet…

Tic1: 9 billion people by 2050

Me: yeah 7 billion and a bit now.

Tic1: so now, so what should we chop down to make these fields…

Belle: we could shut down buildings

2+ S: power stations!

Tic1: but then how would be power our houses?

Belle: well we could use candle light and windmills

Tic1: don't we need factories?

Belle: not for candles.

Tic1: you know… adults have the exact same debate and do you know what they decided we would chop down?

Mark: rainforests.

2+ S: huh huh oh no….

Sophia: they must be weird! They must be like this…

(*lots of shocked chatter*)

Tic1: um yes… you have always got to make a compromise. If you want something you need to give something. You can't get anything for free. You can't have fields of sunflowers without talking something away… Mark?

Session 20

This excerpt also elicits *envisioning* and *reflection* about what will happen if all 7 billion people tried to run their cars of biofuels. The subcategory *discussing a question* also features here. It is also worth noting the example of *critical thinking: challenging authority* that takes place in the following quote 'not that many yet…' when Tic1 states that the population of the planet is 9 billion.

g) Group Arrangement and Research Skills

Appendix 7

The next tabulation evinces that opportunities for developing research skills were only evident in this case in sub group work arrangements and individual work. It is not helpful to exemplify this table with an excerpt as the group arrangements were not the active element here. The focus of the is what led to the affordance of the opportunities for developing these skills.

Table 9Aiii.1.g – Tabulating Group Arrangements and the coding subcategories for the category: Research Skills

Group Arrangement/Coding subcategories	**Individual work**	**Sub group work**	**Whole group work**
39 : books	No	Yes	No
40 : computer	Yes	Yes	No
41 : Research skills only	No	Yes	No

h) Group Arrangement and Teamwork

Teamwork is a contested term but in this research it refers to any work where the achievement of the activity is dependent on the involvement of a specific group of other children. The next tabulation shows that the group arrangements: sub group work and whole group work are associated with the development of teamwork in this research.

Table 9Aiii.1.h – Tabulating *Group Arrangements* and the coding subcategories for the category*: Team Work*

Group Arrangement/Coding subcategories	**Individual work**	**Sub group work**	**Whole group work**
43 : completing a task together	No	Yes	No
44 : co-operation	No	Yes	No

45 : handling disagreement	No	Yes	No
46 : Team work only	No	Yes	NO
47 : treating other group members nicely	No	Yes	No

Table 9Aiii.1.h evinces that the category teamwork is afforded opportunities for development in sub group work only. Teamwork is a part of a number of the excerpts already included in this analysis. Notably, Box 9A.iii.1d and Box 9Aii.3b both contain excerpts from encounters involving sub group arrangements where opportunities for teamwork arose. In Box 9A.iii.1d this included handling disagreement and co-operation in the same encounter. The sub group arrangements in this case always necessitated the children to work together to complete an activity or plan or research something; hence the sub group arrangements always afforded opportunities for the development of teamwork skills such as co-operation or handing disagreement. Their exemplification through a separate an excerpt is superfluous here.

ii. 9Aiii.2 Whole Group Focus

Table 9Aiii.2) – Tabulating Whole Group Focus and the coding subcategories for category: Skills

Whole group focus/Coding subcategories	**K : controversial issue discussion**	**L : planning-based discussion**	**O : Plenary based discussion**
1 : communication aggregate	Yes	Yes	Yes
2 : communication only	Yes	Yes	Yes

3 : listening	Yes	Yes	Yes
4 : make a poster	No	No	No
5 : make a video	No	No	No
6 : persuasion	No	Yes	No
7 : talk about subject	Yes	Yes	Yes
8 : write a blog	No	No	No
9 : write an email	No	No	No
10 : write letters	No	No	No
9 : critical thinking aggregate	Yes	Yes	Yes
12 : challenging authority	Yes	Yes	No
13 : critical thinking only	Yes	Yes	Yes
14 : identifying deceit	No	No	No
15 : identifying opportunities for foul play	Yes	No	No
16 : identifying undesirable outcomes	Yes	Yes	Yes
17 : suggesting improvements	No	No	Yes
18 : trustworthiness of sources	No	No	No
what if questions	yes	yes	yes
19 : Discussion	Yes	Yes	Yes
20 : Leadership aggregate	No	Yes	Yes
21 : developing an understanding of what it entails	No	Yes	Yes

22 : Leadership only	No	Yes	Yes
23 : nominated by group	No	No	No
24 : nominated by teacher	No	Yes	No
25 : self volunteered	No	Yes	Yes
26 : problem solving	No	Yes	Yes
27 : Reflection aggregate	Yes	Yes	Yes
28 : conflicting opinions	Yes	No	No
29 : discussing a question	Yes	No	Yes
30 : planning a task	No	Yes	Yes
31 : plenary session	No	Yes	Yes
32 : reflection only	Yes	Yes	Yes
33 : revisiting learning from previous sessions	No	No	No
34 : envisioning	Yes	Yes	Yes
35 : envisioning alternative outcomes	No	Yes	Yes
36 : envisioning alternative solutions	Yes	No	No
37 : weighing up right and wrong	Yes	No	Yes
38 : Research Skills aggregate	No	No	No
39 : books	No	No	No
40 : computer	No	No	No

41 : Research skills only	No	No	No
42 : Team work aggregate	No	No	No
43 : completing a task together	No	No	No
44 : co-operation	No	No	No
45 : handling disagreement	No	No	No
46 : Team work only	No	No	No
47 : treating other group members nicely	No	No	No

Table 9Aiii.2) – Tabulating Whole Group Focus and coding categories for the set: Skills

Whole group focus/Coding subcategories	**K : controversial issue discussion**	**L : planning-based discussion**	**O : Plenary based discussion**
1 : communication aggregate	Yes	Yes	Yes
9 : critical thinking aggregate	Yes	Yes	Yes
19 : Discussion	Yes	Yes	Yes
20 : Leadership aggregate	No	Yes	Yes
26 : problem solving	No	Yes	Yes
27 : Reflection aggregate	Yes	Yes	Yes
34 : envisioning	Yes	Yes	Yes
38 : Research Skills aggregate	No	No	No

42 : Team work aggregate	No	Yes	No

Table 9Aiii.2 evinces *that controversial issue discussions* elicit a smaller range of the skills in this set than *planning* and *plenary based* discussions. This is interesting because my observations of these encounters left me with the impression that a club wholly devoted to this kind of activity would have its place. However, the analysis of this data suggests that the way in which this club is organised with a range of affords opportunities for a greater range of attributes to be developed; particularly with respect to the attributes represented in the skills set. Hence a club wholly devoted to discussions of controversial issues may be effective in the development of some attributes such as critical thinking, experiential understanding and volitional dispositions. However, if the aim of the club is to develop as wide a range of attributes as possible then an approach where a variety of is undertaken is more likely to be effective.

In the remainder of this section, I will treat the categories in the *Skills* set separately apart from those for *discussion* and *problem solving* for which there are no subcategories, as in the previous section.

a) Whole Group Focus and Discussion and Problem Solving

Table 9Aiii.2a) – Tabulating *Whole Group Focus* and the coding categories*: discussion and problem solving.*

Whole group focus/Coding subcategories	**K : controversial issue discussion**	**L : planning-based discussion**	**O : Plenary based discussion**
19 : Discussion	Yes	Yes	Yes
26 : problem solving	No	Yes	Yes

Appendix 7

The table shows that both planning-based discussions and plenary based discussions afforded opportunities for the development of these two skills. The excerpt included here was selected because plenary based discussions have been underrepresented so far in this analysis.

The excerpt chosen to exemplify the categories *discussion* and *problem solving* was taken from an encounter involving the whole group in a plenary based discussion. This encounter took place at the end of a session in which the children worked individually (in parallel) to make grass heads to sell at the Summer Fete to raise funds for the club. It was notable how engaged the children were in this discussion with all children having some comment to make at some point. The excerpt below represents a short section of the discussion.

Box9Aiii.2a) – Excerpt to exemplify *Whole Group Focus* and the coding categories*: discussion* and *problem solving.*

Tic1: We worked very hard and we have made a lot of grass heads we need to think how much are we going to charge for our grass heads. We have got small, medium and large. So how much are we going to charge? Mark said he would make a poster so how much are we going to charge? Rosa?

Rosa: for the small ones 20p

Belle: no they won't sell!

Sugar: 50

Rosa: and then the medium ones 50 and then the big ones, actually maybe the big ones £2 and then the medium ones £1 and the small ones 50p.

Tic1: would you would you buy a grass head for £2

2+S: no

Tic1: would you buy a grass head for £1.50?

2+S: maybe yes yeah… if you if you say it's…

Belle: if you if we say it is home made by children and it if for a good cause

Snowy: no… no school made

Tic1: Sugar really likes the idea of certificates so I think Goergia is going to make up some certificates. That would great. Super, big ones £1.50, medium ones 50p,

(*lots of overlapping chatter*)

Rosa: well, the big ones £1.50 and the medium ones maybe 75p and the small ones maybe 50p

Session 21

The *plenary based focus* of the discussion is significant here because it is the fact that the discussion follows the activity in which the children have invested time and effort to make the grass heads that influences their engagement in the discussion and their willingness to solve the problem of coming up with an appropriate price. The timing of the activity (as a plenary at the end of the session) enhances the potential for developing the children's *discussion* skills and their engagement with the activity through the investment of time and effort enhances the likelihood of them engaging in the problem solving aspect of the activity. This increased likelihood of engagement enhances the opportunities for developing *problem solving* skills here. The whole group arrangement is influential because it allows all of the children to be exposed to the discussion. If this had been done in individual or sub group arrangements there would have been less exposure to different solutions and therefore less need to discuss or provide alternative solutions therefore less need to develop discussion and problem solving skills. Furthermore, the whole group nature ensured that the teacher was there to facilitate and encourage the conversation, which further increased the opportunities for developing the two skills represented by these categories.

b) Whole Group Focus and Communication

Table 9Aiii.2b) – Tabulating *Whole Group Focus* and the coding subcategories for category*: Communication*

Whole group focus/Coding subcategories	**K : controversial issue discussion**	**L : planning-based discussion**	**O : Plenary based discussion**
2 : communication only	Yes	Yes	Yes
3 : listening	Yes	Yes	Yes
4 : make a poster	No	No	No
5 : make a video	No	No	No
6 : persuasion	No	Yes	No
7 : talk about subject	Yes	Yes	Yes
8 : write a blog	No	No	No
9 : write an email	No	No	No
10 : write letters	No	No	No

The tabulation of *whole group focus* reveals very little difference between the different foci in terms of the subcategories for communication. This may be explained by the fact that making posters and videos and writing letters, emails and blogs are that are not carried out in whole groups in this case. Thus no excerpts are presented for this theme.

The tabulation below of *whole group focus* and *critical thinking* is more revealing; evincing that controversial issue discussions afford opportunities for more of the subcategories to be developed.

1. c & e& f) Whole Group Focus & Critical Thinking & Reflection & Envisioning

In this section critical thinking, reflection and envisioning are treated together. This is because they quite often emerged in the same encounters in the data gathered for this research. The excerpt chose to exemplify these three illustrates this.

Table 9Aiii.2c) – Tabulating *Whole Group Focus* and the coding subcategories for category*: Critical thinking*

Whole group focus/Coding subcategories	**K : controversial issue discussion**	**L : planning-based discussion**	**O : Plenary based discussion**
12 : challenging authority	Yes	Yes	No
13 : critical thinking only	Yes	Yes	Yes
14 : identifying deceit	No	No	No
15 : identifying opportunities for foul play	Yes	No	No
16 : identifying undesirable outcomes	Yes	Yes	Yes
17 : suggesting improvements	No	No	Yes
18 : trustworthiness of sources	Yes	No	No
What if questions	yes	yes	yes

Appendix 7

Table 9Aiii.2e) – Tabulating *Whole Group Focus* and the coding subcategories for category*: Reflection*

Whole group focus/Coding subcategories	**K : controversial issue discussion**	**L : planning-based discussion**	**O : Plenary based discussion**
27 : Reflection aggregate	Yes	Yes	Yes
28 : conflicting opinions	Yes	No	No
29 : discussing a question	Yes	No	Yes
30 : planning a task	No	Yes	Yes
31 : plenary session	No	Yes	Yes
32 : reflection only	Yes	Yes	Yes
33 : revisiting learning from previous sessions	No	No	No
37 : weighing up right and wrong	Yes	No	Yes

Table 9Aiii.2f) – Tabulating *Whole Group Focus* and the coding subcategories for category*: Envisioning*

Whole group focus/Coding subcategories	**K : controversial issue discussion**	**L : planning-based discussion**	**O : Plenary based discussion**
35 : envisioning alternative outcomes	Yes	Yes	Yes

36 : envisioning alternative solutions	Yes	No	No

Table 9Aiii.2c, e and f evinces that *whole group, controversial issue* discussions elicit a wide range of subcategories in the *critical thinking, reflection* and *envisioning* categories.

Box 9Aiii.2c&e &f) Excerpt to exemplify *controversial issue discussion* and critical thinking and its subcategories: *challenging authority*, *identifying undesirable outcomes* and *identifying opportunities for foul play* and *what if* questions and *Reflection* and its subcategories: *conflicting opinions*, *reflecting on* and *discussing questions*, and *weighing up right and wrong* and Envisioning: envisioning alternative outcomes and solutions

TIC1: so they did something really naughty and this is the thing I want to talk about... they went onto a ship which didn't belong to them 'kay, so they were doing something called tresspassing, it is like if you go into someone's garden and they don't want you in their garden. You will get in trouble... and so what they did is they went onto someone's ship and they waited for the police to come to get them off because the ship couldn't go anywhere while they were on it ok, so they did something naughty but the reason they did soemthign naughty ... what was the reason they did something naughty? Sugar?

Sugar: was to save the world

TIC1: was to save the world and to get people to know about what they were doing. Do you think that is a good thing to do or a bad thing?

Snowy and others: GOOD

TIC1: do you think it is ok to do something naughty if it is for a good reason?

Snowy and others: YES YES! David wants to say something about that... David?

David: well, um ...

Mark: yeah, well kind of, it is quite good for that one thing but then you might you would get locked up in jail

TIC1: so it is bad for the person, yeah maybe

Tina: I kind of thinking one company is more important, I mean less important than the whole world.

TIC1: but one company, the people that own that company; they need their millions of pounds every year. If you took all the money away from the guy in charge of Shell do you think he will have a happy life? so are you saying you think the world is more important than the guy that owns Shell?

Mark: well, plus everyone in the world?

TIC1: yeah, but how about all the people in charge of Shell? they all need the money.

Tina: yeah I know but you are saying that one company should be able to kill the world.

TIC1: do you think that's not true? do you think they shouldn't?

2+S: No, no (*laughter*)... they shouldn't

TITIC1: ok, do you think then that you should do whatever you can to stop them?

2+S: ummm

TIC1: what sort of things should you do to stop a company like that?

UnIS: put it out of business...

TIC1: Sophia

Sophia: well, um, you should try and stop them but I don't think you should... personally I wouldn't trespass even if it was to save the world, I wouldn't do that.

TIC1: no that is fair enough ... and some people wouldn't

Sophia: because then you would get put in jail and you wouldn't be able to tell anyone anyway.

TIC1: why do you think these people decided to do this because these people are going to, well, they got arrested, they won't go to jail... but those people are at risk of going to jail... why do you think they would be willing to go to jail for something like saving the planet? Cocoa?

Cocoa: because there are about 7 billion peopple in the world and there is only 7 of them

TIC1: yeah, so do you think that is a sacrifice worth making?

Session 13

The excerpt above was taken from the encounter of a controversial issue discussion involving the whole group elicited by a film of protestors illegally boarding one of Shell's ships bound for the Arctic to look for oil. This encounter afforded opportunities for the development of a wide range of attributes represented by the categories in the *skills* set but also in the *knowledge, experiential understanding* and the *volitional dispositions* sets.

The excerpt evinces the opportunities afforded by controversial issue discussions for the development of skills represented in the reflection category. The excerpt shows how these discussion present opportunities for handling *conflicting opinions*, *reflecting on and discussing questions*, and *weighing up right and wrong*. In this research, weighing up right and wrong is treated as a subcategory of *reflection* but it could also be said to be an example of the development of *critical thinking*. Similarly, critical thinking, like envisioning could be positioned as a subcategory of reflection; however, critical thinking is significant on its own and so giving it the same status as reflection helps to emphasise its importance as an attribute relevant to both action competence and active citizenship.

The excerpt also evinces how a *controversial issue* discussion involving the whole group affords opportunities for the development of the skills of envisioning alternative outcomes and solutions. The controversial nature of the discussion (i.e. is it ever right to do something wrong?) is what necessitates the individuals to envisage different outcomes and solutions. This data only provides definitive proof that the individuals expressing their thoughts in words are envisaging alternative solutions and outcomes. However, all of the members of the club are being exposed to the opportunities through the whole group nature of the discussion therefore this data reveals how participation in this Eco Club contributes to these children's developing action-competence-associated attributes.

2. d) **Whole Group Focus and Leadership**

Table 9Aiii.2d) – Tabulating *Whole Group Focus* and the coding subcategories for category*: Leadership*

Whole group focus/Coding subcategories	**K : controversial issue discussion**	**L : planning-based discussion**	**O : Plenary based discussion**
21 : developing an understanding of what leadership entails	No	Yes	Yes
22 : Leadership only	No	Yes	Yes
23 : nominated by group	No	No	No
24 : nominated by teacher	No	Yes	No
25 : self volunteered	No	Yes	Yes

Table 9Aiii.2d evinces that controversial issue discussions do not provide any opportunities for the development of the attributes represented by the leadership subcategories. It emerges that, in this group, planning-based discussions

afforded opportunities for the development of the widest range of these attributes.

Box 9Aiii.2d Excerpt to exemplify *planning-based discussions* and *leadership* and its subcategories: *learning about what it entails* and *self volunteered*.

Tic1: there is quite a lot of us so it will be hard for us all to work on one project so what I am suggesting and feel free to give me your ideas on this so what I am suggesting is that for the remainder of the term we nominate one person to be, for example, the note taker. for the term ok, and that person every week will say to me this week we did this or we decided this. ok so if you want to be note-taker that would be fantastic. I need someone to look after the blog.

2+S: OOO hhuh!

Tic1: Ok, so I am not saying that this one person is the only person that does the blog but they are in charge of the blog. Ok, so they don't have to do all the blog and also the blog isn't just about what we do, it's if you find out things outside of school like for example Snowy's finding out facts about trees breathing in and us breathing out the oxygen from the trees. Anybody can blog anything. Ok, so that is what the blog manager's job is. I also need and this depends on what projects we decide to do. I would like some activists' managers.

2+S: oh, yes ooo!

Session 5

The excerpt above is included because it exhibits that Tic1 made opportunities for the children to take on leadership roles available. Although not all the club members had the opportunity to lead the groups by being given the option of volunteering they were learning something about what it involved. Also, by being led they were learning something about what being a leader involves. The excerpt does also show the level of enthusiasm that existed in the group for

taking on these leadership roles. I recorded in my field notes that for some of the sub group there were seven volunteers for the role of leader.

It is worth noting that the act of leading usually took place in the sub group ; although leaders were given responsibility for explaining what the groups were doing during the planning-based and plenary discussions.

3. g) Whole Group Focus and Research Skills

Table 9Aiii.2g) – Tabulating *Whole Group Focus* and the coding subcategories for category*: Research Skills*

Whole group focus/Coding subcategories	**K : controversial issue discussion**	**L : planning-based discussion**	**O : Plenary based discussion**
39 : books	No	No	No
40 : computer	No	No	No
41 : Research skills only	No	No	No

Table 9Aiii.2g evinces that whole group work did not afford opportunities for the development of research skills since research in this group was either carried out in individual or sub group arrangements.

4. h) Whole Group Focus and Teamwork

Table 9Aiii.2h) – Tabulating *Whole Group Focus* and the coding subcategories for category*: Teamwork*

Whole group focus/Coding subcategories	**K : controversial issue discussion**	**L : planning-based discussio**	**O : Plenary based discussion**

		n	
42 : Team work aggregate	No	No	No
43 : completing a task together	No	No	No
44 : co-operation	No	No	No
45 : handling disagreement	No	No	No
46 : Team work only	No	No	No
47 : treating other group members nicely	No	No	No

Table 9Aiii.2h identifies that whole group discussions do not afford opportunities for the development of this category and its subcategories. This is due to the way in which teamwork was defined in this research i.e. any work where the achievement of the task is dependent on the involvement of a specific group of other club members. Hence, it could only actually be developed in sub group . This suggests that group arrangement was influential in affording opportunities for the development of the attributes represented in this category. This is discussed further in Section 9Aiiid.

iii. 9Aiii.3 Sub Group Focus

Table 9Aiii.3) – Tabulating Sub Group Focus and the coding subcategories for category: Skills

Sub group focus /Coding subcategories	**task-based activity**	**planning-based activity**	**research-based activity**

Appendix 7

1 : communication aggregate	Yes	Yes	Yes
2 : communication only	Yes	Yes	Yes
3 : listening	Yes	Yes	Yes
4 : make a poster	Yes	No	No
5 : make a video	No	No	No
6 : persuasion	No	No	No
7 : talk about subject	Yes	Yes	Yes
8 : write a blog	Yes	No	No
9 : write an email	No	No	No
10 : write letters	No	No	No
9 : critical thinking aggregate	Yes	Yes	Yes
12 : challenging authority	Yes	Yes	Yes
13 : critical thinking only	Yes	Yes	Yes
14 : identifying deceit	Yes	No	No
15 : identifying opportunities for foul play	No	No	Yes
16 : identifying undesirable outcomes	Yes	No	No
17 : suggesting improvements	No	No	No
18 : trustworthiness of sources	No	No	Yes
19 : Discussion	Yes	Yes	Yes
20 : Leadership aggregate	Yes	Yes	Yes

21 : developing an understanding of what it entails	Yes	No	Yes
22 : Leadership only	Yes	Yes	Yes
23 : nominated by group	Yes	No	Yes
24 : nominated by teacher	No	No	No
25 : self-volunteered	Yes	Yes	Yes
26 : problem solving	Yes	Yes	Yes
27 : Reflection aggregate	Yes	Yes	Yes
28 : conflicting opinions	Yes	Yes	Yes
29 : discussing a question	Yes	No	Yes
30 : planning a task	Yes	Yes	Yes
31 : plenary session	No	No	No
32 : reflection only	Yes	Yes	Yes
33 : revisiting learning from previous sessions	No	No	No
34 : envisioning	No	No	No
35 : envisioning alternative outcomes	No	No	No
36 : envisioning alternative solutions	No	No	No
37 : weighing up right and wrong	Yes	No	No
38 : Research Skills aggregate	Yes	Yes	Yes

39 : books	Yes	Yes	Yes
40 : computer	No	No	Yes
41 : Research skills only	Yes	Yes	Yes
42 : Team work aggregate	Yes	Yes	Yes
43 : completing a task together	Yes	Yes	Yes
44 : co-operation	Yes	Yes	Yes
45 : handling disagreement	Yes	Yes	Yes
46 : Team work only	Yes	Yes	Yes
47 : treating other group members nicely	Yes	No	Yes

Table 9Aiii.3) – Tabulating *Sub Group Focus* and the coding subcategories for category*: Skills*

Sub group focus /Coding subcategories	**task-based activity**	**planning-based activity**	**research-based activity**
1 : communication aggregate	Yes	Yes	Yes
9 : critical thinking aggregate	Yes	Yes	Yes
19 : Discussion	Yes	Yes	Yes
20 : Leadership aggregate	Yes	Yes	Yes
26 : problem solving	Yes	Yes	Yes
27 : Reflection aggregate	Yes	Yes	Yes
34 : envisioning	Yes	Yes	Yes

38 : Research Skills aggregate	Yes	Yes	Yes
42 : Team work aggregate	Yes	Yes	Yes

Table 9Aiii.3 evinces that the theme *sub group focus* is not useful for differentiating between the categories in this set. It is necessary to look at the subcategories in each of the categories to be able to see if the theme: *sub group focus* is influential. This section does just that.

1. a) Sub Group Focus and Discussion and Problem Solving

Table 9Aiii.3a) – Tabulating *Sub Group Focus* and the coding subcategories for category*: Discussion* and *Problem Solving*

Sub group focus /Coding subcategories	**task-based activity**	**planning-based activity**	**research-based activity**
19 : Discussion	Yes	Yes	Yes
26 : problem solving	Yes	Yes	Yes

Box 9Aiii.3a) – Excerpt to exemplify *Sub Group Focus: planning and research-based activities* and the coding subcategories for category*: Discussion* and *Problem Solving*

Tip: What other kinds of wood?

Me: so does this suggest bamboo? Does it say bamboo? Yeah. So we need to find bamboo. I think bamboo is really important, do you know why they use bamboo?

Tip: No

Me: have a look at it, right. bamboo has got

Tip: Oh yeah! A hole.

Me: … big hole down the centre, right? So if you use a normal stick the bee can't go in because there is no hole. So whatever we do we need to find something that has a hole in it like that, ok?

(*chatter is inaudible*)

?: Rosa has that although bees find it most irresistible.

Rosa: I don't know what that means.

Maya: So they can't resist it. They really like it.

Daisy: What about wallflowers? I found quite a lot of these.

Session 16

The excerpt in Box 9Aiii.3a is taken from an encounter of a sub group with a planning and a research focus that afforded opportunities for the development of both discussion and problem solving skills. In this encounter, the activity was to research how to attract bees so that the plans for a bee hotel could be drawn up; hence it was necessary to code for both planning and research in this activity. The excerpt exemplifies how the members of the group worked together (with me), discussing different options and explaining terminology to each other to solve the problem of how to design a bee hotel. Here knowledge of the whole encounter is required to be able to code the problem solving category in the data. The link between the theme: group focus (*planning* and *research-based*) and the categories: *discussion* and *problem solving* are clear. It is the fact that the activity requires them to *research* and to solve the problem of how to *plan* a bee hotel that leads to the *discussion* and *problem solving* coded in these data.

2. b) Sub Group Focus and Communication

Table 9Aiii.3b) – Tabulating *Sub Group Focus* and the coding subcategories for category: *Communication*

Sub group focus /Coding subcategories	**task-based activity**	**planning-based activity**	**research-based activity**
2 : communication only	Yes	Yes	Yes
3 : listening	Yes	Yes	Yes
4 : make a poster	Yes	No	No
5 : make a video	Yes	No	No
6 : persuasion	Yes	No	No
7 : talk about subject	Yes	Yes	Yes
8 : write a blog	Yes	No	No
9 : write an email	No	No	No
10 : write letters	No	Yes	No

Table 9Aiii.3b evinces that the task-based in Case 1 afforded opportunities for the development of a wider range of subcategories in the communication category. In fact, writing emails did not feature at all in Case 1 so this subcategory can be ignored here. This category has been designed to include the kinds of communication skills that are difficult to exemplify through dialogue. The subcategories of communication are not as much about talking as about being able to put a message across in a variety of ways including talking and listening but also through posters, blogging and so forth. The excerpt (Box 1Aiii.3b below) was selected because it exemplifies those subcategories that can be represented in text in the context of an encounter involving a sub group working together on the activity of writing a letter. Although the excerpt only

involves three speakers (including myself) there were two other members of the group who listened to this dialogue and contributed to the conversations themselves at other points during the encounter.

Box 9Aiii.3b) –*Excerpt to exemplify Sub Group Focus: task-based* and the coding subcategories for category: *Communication: persuasion, writing a letter and listening* and *talking about a subject*

Sophia: you have to say there is no choice; coz if you say there's a if there's a choice it's like you can just say no, but we are not letting him say no, are we?

Cocoa: yeah we are

Me: well, that is one way of doing it but there is another way of doing it...

Sophia: but but if you say no, you can say if you say no the environment will be.. you have to say what happens if you say no

Me: I think Cocoa has a different way of doing it. What is your way of doing it?

Cocoa: say like why it's a good idea that will help our school which will then be beneficial to what we are doing

Sophia: Very good, very good.

Me: yeah, that sounds good. So you are not trying to force them into …

Sophia: we are not trying to force him but we are trying to say but this is a good… we are like saying this you should do it but we don't want to force you to we are trying to say you SHOULD do it but we are not gonna force you to do it.

Session 7

The encounter in which the dialogue in the excerpt above takes place involved a group of five club members (and myself); hence the data also represents the subcategory *listening* as those who were not involved in the dialogue as speakers were involved as listeners; or at the very least were being afforded the opportunity to do so. In this excerpt it is the *activity* of the writing the letter that

leads the group to talk about a subject and listen. The activity itself (i.e. writing a letter to persuade the head teacher to allow them to build a Minibeast City) that leads to the affordance of opportunities to develop *letter writing* and *persuasion* skills. Although the letter is physically scribed by just one individual, the other group members are involved in the activity through being able to offer suggestions and comment on the process.

3. c) Sub Group Focus and Critical Thinking

Table 9Aiii.3c) – Tabulating *Sub Group Focus* and the coding subcategories for category: *Critical Thinking*

Sub group focus /Coding subcategories	**task-based activity**	**planning-based activity**	**research-based activity**
12 : challenging authority	Yes	Yes	Yes
13 : critical thinking only	Yes	Yes	Yes
14 : identifying deceit	Yes	No	No
15 : identifying opportunities for foul play	Yes	No	Yes
16 : identifying undesirable outcomes	Yes	No	No
17 : suggesting improvements	No	No	No
18 : trustworthiness of sources	No	No	Yes
What if questions	No	No	No

Table 9Aiii.3c evinces that research and task-based afford opportunities to develop a wider range of the attributes represented by the subcategories in the

critical thinking category. The excerpt chose to exemplify the theme: *sub group focus, task-based activity* is the same as that chosen to exemplify the theme: *group arrangement, sub group*. The size of the group affords the opportunity for the discussion to take place that involves all three members of the group with no aid from an adult to direct it. This allows all of the knowledge to emerge from the children, which enables them to develop their critical thinking skills independently of adult intervention. The task-based focus of the activity (to make a film from video clips of events that took place on the school's Green Day) is what necessitated the discussion that leads to the elicitation of this particular group of attributes.

Box 9A iii.3c – Excerpt to exemplify *sub group focus, task-based* and *critical thinking (challenging authority, identifying opportunities for foul play, identifying deceit, identifying undesirable outcomes) in sub group, activity focused actvities, what if questions*.

Cocoa: put the music on first

Mark: no, we are going to play the music on in the background on a different computer,

Cocoa: oh right,

Mark: because we can't download it, coz Miss Malone, I don't think she will let us use an illegal download music site.

Cocoa: it's not illegal

Mark (and Rueben): yeah it is its illegal its illegal

Cocoa: it's naughty, but not illegal

Sam: it is illegal, some music businesses...

Mark: no, because that mega uploads thing got closed down and they said that everyone who has been on it is gonna get arrested

Sam: I've been on it though

Mark: and they said that they know everyone's IP addresses and they can find out your address and they said they are gonna arrest everyone who has been on it and then Sam and I I have have been on it.

Cocoa: but how can they arrest everyone who has been on it? coz guess what, a million different different people a million new users come on every day and something like ten million people use it.

Sam: You can't now because when you go on it there is just an image that says the US court has; the US court has taken the site down and they say because you have viewed the site your IP address has been taken and you will soon get arrested

Cocoa: no, I can't believe, I don't believe them and they don't

Sam: they can't arrest me anyway

Cocoa: why can't they?

Mark: yeah, because we are kids!

Sam: how old do you have to be to go to jail again?

Cocoa: 12 but beforehand you can get…

Sam: young offenders institution

Session 14

d) Sub Group Focus and Leadership

Table 9Aiii.3d) – Tabulating *Sub Group Focus* and the coding subcategories for category:

Sub group focus /Coding subcategories	**task-based activity**	**planning-based**	**research-based**

		activity	activity
21 : developing an understanding of what it entails	Yes	No	Yes
22 : Leadership only	Yes	Yes	Yes
23 : nominated by group	Yes	No	Yes
24 : nominated by teacher	No	No	No
25 : self-volunteered	Yes	Yes	Yes

Table 9Aiii.3d suggests that the activity focus in sub group affords more opportunities for the development of the subcategories in this category. However, in Case 1 the theme that is most significant is *group arrangement* (See Section 9Aiii.1). The excerpt in Box 9A.iii.1d taken from a planning-based activity is particularly revealing in this matter. So, although the activity focus appears to afford more opportunities for the development of subcategories in the leadership category, it is not the focus but the group arrangement that is influential.

4. e & f) Sub Group Focus and Reflection and Envisioning

Table 9Aiii.3e) – Tabulating *Sub Group Focus* and the coding subcategories for category: *reflection*

Sub group focus /Coding subcategories	**task-based activity**	**planning-based activity**	**research-based activity**
28 : conflicting opinions	Yes	Yes	Yes
29 : discussing a question	Yes	No	Yes
30 : planning a task	Yes	Yes	Yes
31 : plenary session	No	No	No

32 : reflection only	Yes	Yes	Yes
33 : revisiting learning from previous sessions	No	No	No
37 : weighing up right and wrong	Yes	No	No

Table 9Aiii.3f) – Tabulating *Sub Group Focus* and the coding subcategories for category: *envisioning*

Sub group focus /Coding subcategories	**task-based activity**	**planning-based activity**	**research-based activity**
34 : envisioning	Yes	Yes	Yes
35 : envisioning alternative outcomes	No	No	No
36 : envisioning alternative solutions	Yes	Yes	Yes

Table 9Aiii.3d evinces that sub group, task-based afford opportunities for a wider range of the attributes represented in this category to emerge. The excerpt chose to exemplify *reflection* is taken from an encounter in which Tic1 and three club members discuss how to complete the activity they are about to carry out. The activity is to measure the roof space without climbing up onto the roof. In this excerpt the subcategories: *planning a activity*, *discussing a question* and *reflection only* emerge. The excerpt also includes an example of envisioning alternative solutions in the idea that they can measure roof space by measuring floor space. Table 9Aiii.3e shows that the theme sub group focus did not afford many opportunities for envisioning. This may in fact be a weakness of the data

collection method where it was not always possible to capture all of the dialogue that emerged.

The categorisation of this encounter as activity focused rather than planning focused should be explained as it is clear that this discussion is about planning what they are going to do. In Case 1 planning-based were that took place separately from tasks. The aim of activity was to make a plan. In other words, the planning took place as a discrete event. The planning event was not always followed by an activity. Task-based sometimes included a planning stage but this was always immediately followed up by the activity. The aim of the activity was to carry out the task whilst in a planning-based activity the aim of the activity was to devise a plan. This issue with planning means that the table is somewhat misleading; however the excerpt is included as it helps to elucidate how the tabulations used here could sometimes lead to misconceptions which the use of excerpts could clarify.

Box 9Aiii.3d) – Excerpt to exemplify *Sub Group Focus* and the coding subcategories for category: *reflection*

Tic1: so what measurements do you think we need to take to find out how much of the roof space there is?

Rosa: um well, we need to measure how wide it is... but I don't know how to do that.

Tic1: Mark what are you thinking?

Mark: you need to put it under it to measure how long it is you need to put a meter under the bottom of it.

Tic1: shall we just measure it in one place or shall we measure it in more than one place?

Rosa: a couple of and then add them together and divide it by how many there are and then you find the average

Mark: coz there might be some wrong

Tic1: a couple, oh you are so smart!

Rosa: we could do it down the middle coz there is a bend there.

Tic1: there is a bend there that would be good and any other places?

Tina: …and maybe there.

Tic1: super, ok I am happy with that. We won't be able to climb up and it would be very hard to measure like that so what do you think we should do?

Rosa: maybe if you like measured on the floor so like that or like up to the bannister

(*going off to get all the bits they need to get the job done*.)

Session 17

In this excerpt, Tic1 is once again instrumental in eliciting the opportunities for reflection by asking questions which lead the children to think about and envisage how they will solve the problem of measuring the roof without climbing up onto it.

Weighing up right and wrong in the reflection category only emerges in sub group and that occurs in the activity focused activity in the encounter in Box 9A iii.3a and in Box 9Aiii.3b. In both of these boxes it is the task-based nature of the that leads to the opportunity for the development of these attributes. It is the fact that the children are having to do that activity that necessitates the *weighing up of right and wrong*. If the were planning focused or research-based there would be no requirement to question whether what they were doing was right or not as they would not in fact, be doing anything. They would only be planning to do something and hence there is no danger of actual wrongdoing taking place.

5. g) Sub Group Focus and Research Skills

Appendix 7

Table 9Aiii.3g) – Tabulating *Sub Group Focus* and the coding subcategories for category: *research skills*

Sub group focus /Coding subcategories	**task-based activity**	**planning-based activity**	**research-based activity**
39 : books	Yes	Yes	Yes
40 : computer	No	No	Yes
41 : Research skills only	Yes	Yes	Yes

It is not surprising that research-based would afford opportunities for the development of all of the attributes in this category. A number of the sessions involved sub group with a research-based focus and in these it was necessary for the group members to use computers and books to research a particular question (for example, how do solar panels produce electricity?). In the task-based and planning-based there was sometimes a need to carry out some research so this would involve the development of research skills too. There is no merit in exemplifying this table with an excerpt as it contains enough information alongside knowledge of the sessions in Case 1 (see Table 6.1a, Chapter 6) to evince the impact of the theme: sub group focus, research-based .

6. h) Sub Group Focus and Teamwork

Table 9Aiii.3g) – Tabulating *Sub Group Focus* and the coding subcategories for category: *teamwork*

Sub group focus /Coding subcategories	**task-based activity**	**planning-based activity**	**research-based activity**
43 : completing a task together	Yes	Yes	Yes

44 : co-operation	Yes	Yes	Yes
45 : handling disagreement	Yes	Yes	Yes
46 : Team work only	Yes	Yes	Yes
47 : treating other group members nicely	Yes	No	Yes

Table 9Aiii.3g evinces that sub group focus does not have much influence on the development of the subcategories in this theme. This is because group arrangement is the influential factor in affording the opportunities for developing this category. This is corroborated by Table 9Aiii.2h and Table 9Aiii.1h and the discussions in the respective sections.

e. Section 9Aiv– Volitional Dispositions

The categories in this attribute set were gleaned from the literature on both action competence and active citizenship, as described in Chapter 8. Further subcategories were added during the coding phase of the analytical process. This section is organised in the following manner:

- 9Aiv.1 Volitional Dispositions and Group Arrangements
- 9Aiv.2 Volitional Dispositions and Whole Group Focus
- 9Aiv.3 Volitional Dispositions and Sub Group Focus

The set*: volitional dispositions* includes the category: *engagement* that has ten subcategories. The categories in this section will aggregated according to how they emerge in the data. In other words, the tables for each section will include the categories gleaned from the excerpts used to exemplify the attributes represented by the categories. This treatment is necessitated by the nature of

this set, which, although not as big as the previous set, is nonetheless large enough to be clarified by some aggregation of the categories.

Each section is divided into subsections according to the categories representing the attributes in the knowledge set, as follows:

i) Discussion and Problem Solving

j) Communication

k) Critical Thinking

l) Leadership

m) Reflection

n) Envisioning

o) Research Skills

p) Teamwork

i. 9Aiv.1 Group Arrangements

Table 9Aiv.1 evinces that, although volitional dispositions are evident in all three arrangements, whole group work emerges as affording the opportunities for the development of the attributes represented in this category. As already stated, individual work was less common a feature of the working arrangements in this group. Moreover the complications introduced by the fact that individual work was often carried out in unison with other children, further confounds the tabulations in this theme. Consideration of these two factors strengthens the difference between individual work and the other two subthemes in this theme.

Table 9Aiv.1) – Tabulating *Group* Arrangements and the coding categories for the set*: Volitional Dispositions*

Coding categories/Group	**individual**	**Sub group**	**Whole group**

Arrangement	**work**	**work**	**work**
1 : Children determining the direction	No	Yes	Yes
2 : confidence	Yes	Yes	Yes
3 : confidence in speaking out and being listened to	Yes	Yes	Yes
4 : confidence solely	No	Yes	Yes
6 : Empowerment	No	Yes	Yes
7 : Engagement aggregate	Yes	Yes	Yes
8 : being impressed	No	Yes	Yes
9 : commitment	Yes	No	Yes
10 : care	No	No	Yes
9 : disappointment	No	Yes	No
12 : engagement only	Yes	Yes	Yes
13 : enjoyment	Yes	No	Yes
14 : loving or liking	Yes	Yes	Yes
15 : volunteering parental input	No	No	Yes
16 : volunteering to do a job	Yes	Yes	Yes
17 : volunteering to lead	Yes	Yes	Yes
18 : Willingness to participate	Yes	Yes	Yes
19 : idea generation by group members	Yes	Yes	Yes

20 : Involvement	Yes	Yes	Yes
21 : making decisions or choices	No	Yes	Yes
22 : Ownership	No	No	Yes
23 : save the world	No	No	Yes
24 : Willingness to suggest alternative solutions	Yes	Yes	Yes

1. a) Group Arrangement and Save the World

The two excerpts in Box 9Aiv.1a are particularly revealing because they exemplify engagement with the broad idea of changing/saving the world. In the data for Case 1, this idea was encountered on a number of occasions in both interviews and in whole group work. This is significant because it provides a shared purpose that binds the members of the club together, hence ensuring engagement with the club, but also encourages engagement with the that are undertaken. It is reasonable to assume that if the children believe that they are 'saving the world' by taking part in the in the club they will be more likely to engage with them.

The fact that the save the world category is only evident in the data from during whole group work arrangements strengthens its potential for binding the club members together with a shared purpose. In this sense it is the whole group arrangement that links this category to all of the other categories exemplified by the excerpts. The table below shows that individual work and Sub group work arrangements also afford opportunities for the development of the other categories but there is no excerpt in the data that combines all of them in one excerpt as is evident in the excerpts from the whole group work encounters included here.

Box 9Aiv.1a) Excerpts to exemplify the Whole Group Arrangement and the coding categories: *Children determining the direction, confidence in speaking out and*

being listened to and the coding subcategories for the category *engagement: commitment, care, volunteering to do a job, Willingness to participate, Involvement, save the world*

Tic1: so they did something naughty but the reason they did something naughty ... what was the reason they did something naughty? Sugar?

Sugar: was to save the world

TIC1: was to save the world and to get people to know about what they were doing. Do you think that is a good thing to do or a bad thing?

2+S: GOOD

TIC1: do you think it is ok to do something naughty if it is for a good reason?

2+S: Yes! Yes!

Tic1: David wants to say something about that... David?

David: well, um ...

Mark: yeah, well kind of, it is quite good for that one thing but then you might you would get locked up in jail

TIC1: so it is bad for the person, yeah maybe…

Session 13

Tic1: I had a little bit of a rant to my class about... Rosa what was I ranting about?

Rosa: KFC

Rosa: you were saying that we are the ones which will make the difference and if we don't bother and just sit there like lumps um… then nothing will happen.

Appendix 7

Goergia: and KFC will just keep on chopping down trees!

Tic1: Oh, I am going to get all uptight again... if you don't change the world who will?

2+S: Me! Me! Me! Me!

Session 22

In these excerpts the meaning of *change the world* is conflated with *save the world*. *Willingness to participate* and *volunteering to do a job* are coded for in the (enthusiastic) response 'Me! Me! Me! Me!' to the rhetorical question: 'if you don't save the world who will?'. Commitment and care are extrapolated from the engagement with the concept of saving the world.

Although *confidence* and *confidence in speaking out and being heard* is a feature of all three group arrangements, it is notable that encounters involving the whole group provide a different environment from the sub group and individual encounters do. Although analysis of the individuals who spoke in the different occasions was not carried out systematically, these data do show that some individuals in the club were more disposed to speak in whole group encounters than others. However, the fact that there is a diversity of group arrangements enables the affordance of opportunities for the individuals who are disposed to speak out in sub group encounters also to develop their confidence. Moreover, the way Tic1 managed whole group discussions was also significant as she would try to afford opportunities to those that did not often speak out in whole group encounters to do so by directing some of her questions to them. This point is discussed in the cross case theme: *teacher effect* in Chapter 9C.

One example of individual work that is affected by group arrangement is Mark's work on the blog. This has been alluded to earlier in terms of affording opportunities for developing communication skills. One of the sessions I attended (Session 23) was the Summer Fete. At this event, I spoke to a number of parents of the children in the club. I was not able to record this dialogue as I did

not have permission to do so. One of the parents that I spoke to was Mark's father. I asked him if he had read the blog that his son wrote. He had not read it but it was clear from his reaction that he was proud of his son's work in this respect and he stated that he intended to take a look at it. During this conversation, it emerged that he works in IT. He made some very interesting comments about how the club (which he viewed as a club dedicated to campaigning) might harness social media to achieve its purposes. This encounter is significant in terms of volitional dispositions because it highlights the opportunities for developing confidence that arise from the in the club. It was clear that Mark was affected by his father's pride. The expression on his face demonstrated this. However, the outcome here is one of researcher impact. My participation as a researcher in the club created the opportunity for developing confidence for this individual.

The remainder of the categories in this set were not influenced by group arrangement hence no further excerpts are included.

ii. 9Aiv.2 Whole Group Focus

Table 9Aiv.2*)* – Tabulating *Whole Group Focus* and the coding subcategories for category*: Volitional Dispositions*

Coding categories/ Whole Group Focus	**controversial issue discussions**	**planning discussions**	**plenary discussions**
1 : Children determining the direction	Yes	Yes	No
2 : confidence	Yes	Yes	Yes
3 : confidence in speaking out and being listened to	Yes	Yes	Yes

Appendix 7

4 : confidence solely	No	Yes	Yes
6 : Empowerment	No	No	Yes
7 : Engagement aggregate	Yes	Yes	Yes
8 : being impressed	No	Yes	No
9 : commitment	Yes	Yes	Yes
10 : care	Yes	No	No
9 : disappointment	No	No	No
12 : engagement only	Yes	Yes	Yes
13 : enjoyment	No	Yes	No
14 : loving or liking	No	Yes	No
15 : volunteering parental input	No	Yes	No
16 : volunteering to do a job	No	Yes	Yes
17 : volunteering to lead	No	Yes	Yes
18 : Willingness to participate	Yes	Yes	Yes
19 : idea generation by group members	Yes	Yes	Yes
20 : Involvement	Yes	Yes	Yes
21 : making decisions or choices	No	Yes	Yes
22 : Ownership	No	No	Yes
23 : save the world	Yes	Yes	No
24 : Willingness to suggest alternative solutions	Yes	Yes	Yes

13 : enjoyment	No	Yes	No
14 : loving or liking	No	Yes	No
15 : volunteering parental input	No	Yes	No
16 : volunteering to do a job	No	Yes	Yes
17 : volunteering to lead	No	Yes	Yes
18 : Willingness to participate	Yes	Yes	Yes
19 : idea generation by group members	Yes	Yes	Yes
20 : Involvement	Yes	Yes	Yes
21 : making decisions or choices	No	Yes	Yes

1. a) Whole Group Focus: Planning-based discussions

Table 9Aiv.2 evinces that the whole group focus: planning discussions affords more opportunities for the development of the attributes represented in this set.

Box 9Aiv.2a Excerpt to exemplify *whole group focus: planning-based discussions* and the coding categories: *Children determining the direction, confidence, confidence in speaking out and being listened to, being impressed, enjoyment, loving or liking, volunteering parental input, volunteering to do a job, Willingness to participate, idea generation by group members, Involvement, making decisions or choices*

Snowy: and then um just and then um lots of um and then made of paving stones. TIC1: that's a good idea

Snowy: that come off the edge of some so you can go in all these ways things and like

TIC1: so like paving stones kind of like winding around not in straight lines but just like going everywhere.

Snowy: just just like going everywhere so you can maybe just stand and then just keep walking and then look

TIC1: do you think we should have paving stones that we can lift up or that we leave down?

Snowy: that we leave down like and like they are kind of like stepping stones and like so there is a paving stone and then there is a gap and it just looks nicer and it makes it feel more kind of like and makes it feel nicer

TIC1: that is a good idea what do you think about the paving stones? Any ideas, no? no, David what do you think?

David ,,, but like reception they might not.... (inaudible bits)

TIC1: maybe we need like a little boundary or something, ok? Sophia, what do you think about the stepping stones?

Sophia: we could make it like out of sort of like wattle and daube...

TIC1: would that be more environmentally friendly?

Sophia: yeah I think.

TIC1: ok.. Mark?

Mark: me and David our road has gravel on it and we might be getting rid of it.

Tic1: oh so you might have some gravel we can have? right ok. Snowy:

Snowy: and if we are going to dig out the grass I could ask my parents if they um because you can get this special big digger thing and you just push it along and it just digs up the grass coz we had to use it do dig up the grass in our garden.

TIC1: right, ok right now we we need if we had a city we might have a place

where a king or queen might live in the middle or something. Shall we have like a bug palace?

Mark/David: yeah a bug palace would be really cool!

2. b) Whole Group Focus: plenary based discussions and empowerment

Empowerment is included in this set but it was quite difficult to discern in the data. The encounters where it was common were the whole group, plenary based discussions. In these discussions the children were given the opportunity to explain what they had been doing during the sessions. The positive feedback from Tic1 and the other children afforded opportunities for empowerment. The excerpt in Box is taken from such an encounter in a plenary session where a child reads out a letter that she and the rest of her team have been working on. It evinces the opportunity for empowerment from Tic1's response. The fact that, through this letter the children in the club are being given the opportunity to influence the head teacher's decision about what to do with the school grounds (i.e. to allow them to build a Minibeast City on it) is also significant. It is the plenary based focus of the activity that emphasises this aspect of this encounter; hence the theme whole group focus is influential in affording opportunities for empowerment in this instance.

Box 9Aiv.2b) Excerpt to exemplify whole *group focus: plenary based discussions* and the coding category: *empowerment*

Tina: Dear Mr Headteacher, we the environment club would like permission to build a bug city on the patch of grass outside the new staff room. If we got permission, we would hold a cake sale to raise money to buy utensils and plants etc. We would like to make the city to help attract bugs to our school to help us learn about bugs. If the project took place, we would have it finished by the end of July. Some of the materials needed we already have in school, like wood and plants etc. By the time we have got permission from you we will have learned

what we need to do. When we have finished we will know we have succeeded because there will be lots of bugs and children will work to help the bugs. In conclusion we think this is a good idea because we will encourage bugs and children to become more eco-friendly. Yours sincerely, Eco Club.

TIC1: well done, team. That is great. Are there any suggestions of ways they could make it better. What do you think Snowy?

Snowy: and we could add our um what, what sort of bugs we would be expecting to be coming to the bug city and why it is going to be so successful and um… what, what and how its

TIC1: ok so maybe if we focus on what type bugs we would expect that is a really good idea

Snowy: and then Mr Ht2 can look and say I would like to see some of those

TIC1: lesser spotted beetle

Snowy: and then Mr Ht1 could say: 'oh! I would like to see that bug'

TIC1: ok, that is a really good idea. He might be a closet bug fan and if we say we will get more ladybirds he will be like YES!

Session 7

iii. 9Aiv.3 Sub Group Focus

Table 9Aiv.3) – Tabulating *Sub Group Focus* and the coding subcategories for the category: *Volitional Dispositions*

Coding Categories/ Sub Group Focus	**task-based activities**	**G : planning-based**	**H : research-based**

		activities	activities
1 : Children determining the direction	No	Yes	Yes
2 : confidence	Yes	Yes	Yes
3 : confidence in speaking out and being listened to	Yes	Yes	Yes
6 : Empowerment	Yes	Yes	Yes
7 : Engagement aggregate	Yes	Yes	Yes
8 : being impressed	Yes	No	No
9 : commitment	No	No	No
10 : care	No	No	No
9 : disappointment	Yes	No	No
12 : engagement only	Yes	Yes	Yes
13 : enjoyment	No	No	No
14 : loving or liking	No	No	No
15 : volunteering parental input	No	No	No
16 : volunteering to do a job	Yes	Yes	Yes
17 : volunteering to lead	Yes	Yes	Yes
18 : Willingness to participate	Yes	Yes	Yes
19 : idea generation by group members	Yes	Yes	Yes
20 : Involvement	Yes	Yes	Yes

21 : making decisions or choices	Yes	Yes	Yes
22 : Ownership	No	No	No
23 : save the world	No	No	No
24 : Willingness to suggest alternative solutions	Yes	Yes	Yes

Table 9Aiv.3 evinces very little difference between the range and type of categories elicited by the different foci of sub group, task-based activities. The category *being impressed* emerges only in task-based activities but it is not the theme of task-based activities that elicits this difference. In this instance the following quote is coded: 'Eco club is so awesome. Hooray!'. However, the encounter in which this statement is made bears no relationship to that statement so it appears that the statement was made for the sake of the audio recording. This suggests research effect had an impact on these data in this instance. This issue is discussed in greater detail in Chapter 12.

The encounter in Session 16 involving a sub group, research and planning-based activity drawn from in 9Aiii.3 is revealing in this theme too. Knowledge of the whole encounter is necessary to be able to understand how the coding was applied. In this encounter *Children determining the direction confidence, confidence in speaking out and being listened to, Engagement, volunteering to do a job, willingness to participate, idea generation by group members, Involvement and willingness to suggest alternative solutions* were all in evidence. The excerpt below does not exemplify all of these attributes but my knowledge of the encounter from my role as observer participant is that this encounter proved to be fully engaging for the children in the sub group and hence their willingness to participate and suggest alternative solutions was evident.

Box 9Aiv.3a) Excerpt to exemplify *sub group focus: research and planning-based focus* and *Children determining the direction confidence, confidence in speaking out and being listened to, Engagement, volunteering to do a job, willingness to*

participate, idea generation by group members, Involvement and willingness to suggest alternative solutions

Snowy: but in the time while the flowers are still growing we can have that but in about half a year then we could have we could buy some bees from a bee keeper and if he is experienced he can make them to sleep and so if they go to sleep then we can move them in safely and then every week we can take them in and then we can have fresh honey.

Sophia: Daisy! Daisy!

Tip: but how will the children go in and feed them?

Me: I think that is a very good idea but the point being that that when they come out at lunch time and after school.

Sophia: bees like sunflowers

Daisy: snowy snowy snowy, bees like sunflowers

Tip: bees like sunflowers

(*inaudible, overlapping but enthusiastic chatter*)

Tip: here's here's a list of what you need here's a list of what you need.

Diasy: Rosa Rosa heliotrope...

Tip: I didn't say we needed rope.

Rosa: H-E-L-I (*all spelling together*)

Daisy: only painted lady and peacock butterfly

Snowy: I think I should write …

Daisy: Alliums and…

Snowy: ok, I will get some paper and start a letter.

Daisy: scabius.

Me: is that for bees and butterflies?

Rosa: I don't think we are going to need all of this.

Me: yes but it is good to have it. is this for both of them?

UnIS: yes

Session 16

In this excerpt the research and planning-based foci of the activity is influential in affording the opportunities for development of the categories listed. It is the fact that the activity is in the planning and research stages that gives the children the ability to determine the direction of the plans. This sense of determining the direction is influential on their engagement with the activity and their willingness to participate. Moreover the fact that they are planning the activity requires them to generate ideas and concomitantly, volunteer to do the jobs that arise from the ideas generated during the activity.

This concludes the write up of the analysis of Case 1 for this chapter. In the next section I write up the analysis of Case 2.

f. Section 9B

i. Case 2 Themes

In this section, I provide a discussion of the analysis of the data from Case 2. Chapter 6 contains a description of the differences between these two cases. Table ? page? outlines these differences clearly. The outcome of the considerable divergence between these two cases the themes emerging from the two cases are different. For Case 2, with the exception of the (unrecorded) sessions where I introduced my research project to the club and the planning session that took place at the end of the work on the herb garden, this club had only one focus (to plant a herb garden) and only one group arrangement (whole group).

Moreover, the whole group arrangement was complicated by the fact that each time the club met, different members were present. The club consisted of about twenty children. The children were elected by their class. Each class elected two representatives. The plan was for one representative per class to attend every other week. The outcome of this would be effectively two clubs that meet on alternate weeks. However, so many club meetings were cancelled that the children were never sure which week they were supposed to attend. Thus there was very little coherence in terms of the members of the club between the different weeks. It transpired that some children were there for every meeting and others only attended two or three of the meetings during my time at the school.

Despite these difficulties, during the data collection, transcription and coding phases some themes did emerge.

- Theme 1 - Group gardening activity
- Theme 2 - Planning session
- Theme 3 - Dichotomy between the club's approach to participation and child voice and the school's as presented by Ht2 and the parent facilitator.

Appendix 7

Theme 1 arose from the nature of the activity they engaged in (i.e. the construction of a herb garden). The volitional depositions evident in the data are associated with the gardening activity. The activity also drew out opportunities for children to talk about their other experiences of gardening, hence the work afforded opportunities for the development of experiential understanding.

Theme 2 is the impact of the session where the children were given the opportunity to talk about their ideas for the club in the future. This activity arose out of a conversation initiated by one of the children in the club. It took place during an encounter in a gardening session when the herb garden was almost complete. An excerpt from this conversation is presented in Box ? below.

Box 9B Theme 2 Excerpt to exemplify the conversation that initiated Theme 2

Tim: yeah it is starting to look good

Rafi: what are we going to do once we have finished?

Tic2: oo we are going to have to think about it.

Rafi: I was thinking we could do the pond

Tim: wildlife

Brownwyn: yeah the pond is a little bit

2+S: the pond. Yes, the pond!

Natasha: it would be nice to have some fish in there, then we can learn about fishes.

Tic2: I know you all really want a pond. I know they are just so expensive

Lucy: but we already have a pond.

Brownwyn: but we should have to put concrete underneath it.

Boy5: we could have one of those like, Eco days when you bring in like 50p or you can like do and we could all raise money for the school funds and then we could do it.

Tic2: ...

Tim: I think the next thing we should improve is the wildlife area.

Tic2: do you ok?

Tim: we have all those logs we could make some planks and build a little hut. we could make little paths

Rafi: or like you know the planks that were up there my mom took some to the allotment and made like a seating area

Tic2: yes, we did that.

Case 2, Session 16

Following this conversation, Tic2 and I talked about how keen the children were on the idea of fixing the school pond. The outcome of this conversation was a plan to run a session where the children suggested what they thought the club should do in the future.

Theme 3 concerned the dichotomy between what was taking place in the club in terms of giving the children a voice and addressing the environmental issues that concerned them, and how the head teacher and parent facilitator approached child voice and environmental education. The club, as run by Tic2, showed very little evidence of accounting for the needs and interests of the children; yet the children continued to voice their concerns and the head teacher and parent facilitator espoused strongly held commitments to participatory approaches and child voice. I contend that the critical thinking and confidence in speaking out that arises despite Tic2's attempts to discourage it, are an outcome of this dichotomy.

Chapter 9B is organised as follows:

- 9Bi-iv Attribute sets from etic analytical framework

Appendix 7

- 9Bi-iv.1 & 2 Themes from emic analytical framework

9Theme 3 is addressed in Chapter 10 alongside other themes that require cross-case comparison or that emerge from a combination of sources that cannot be tabulated in a style that is consistent with the other themes in this chapter.

The remainder of this section is laid out as follows:

i. 9B Contents:

- 9Bi) Experiential Understanding

9Bi.1) Group Gardening Activity

9Bi.2) Planning Session

- 9Aii) Knowledge

9Bii.1) Group Gardening Activity

9Bii.2) Planning Session

- 9Biii) Skills

9Biii.1) Group Gardening Activity

9Biii.2) Planning Session

- 9Biv) Volitional Dispositions

9Biv.1) Group Gardening Activity

9Biv.2) Planning Session

Signposting for this section is limited to the contents plan set out above.

g. 9Bi) Experiential Understanding

As previously explained, this attribute set comprises the categories change, action and envisioning and their subcategories. The tables do not differentiate between categories and subcategories as this is deemed unnecessary in this set.

i. 9Bi.1) Experiential Understanding and Group Gardening Activity

The activity of gardening in a group afforded opportunities for a number of the attributes in the experiential understanding set to be developed. The table below shows which categories were identified in the data from the audio recordings of the club meetings in Case 2.

Table 9Bi.1) Tabulating the *Group Gardening Activity* and the coding subcategories for the category: experiential understanding.

Experiential Understanding coding categories	**Presence**
2 : applying knowledge only	Yes
3 : making connections to other	Yes
4 : change	No
5 : drawing on past experience to suggest alternative solutions	Yes
6 : making change	No
7 : recounting past experiences	Yes
8 : re-evaluating past events or remembering plans not carried out.	Yes

10 : learning about what it means	No
9 : taking action only	No
12 : envisioning	Yes
13 : envisioning alternative outcomes	Yes
14 : envisioning alternative solutions (2)	Yes

The excerpt in Box 9Bi.1 is taken from an encounter where one boy is watering the herbs they have planted. In this excerpt, recounting past experience has been coded despite the fact that the recounting is very brief. It is clear that the activity of gardening has elicited the opportunity for developing these attributes. Another important aspect here is the fact that the children were working together on this activity. If they had been working individually there would have been no reason to discuss the watering of the plants, hence this dialogue would not have taken place and the opportunities for developing experiential understanding would not have arisen.

Box 9Bi.1) Excerpt to exemplify *Gardening Activity* and the coding subcategories: *applying knowledge only, making connections to other , recounting past experiences, recounting past experiences*

Lucy: that is enough.

Tim: yeah I know.

Lucy: that is too much!

Time: no it's not, they actually do need a lot of water. You need to make them wet.

Natasha: don't drown them.

Tim: I am not going to. The soil needs to be moist otherwise they won't actually grow. I do gardening all the time.

Rafi: I do gardening at the allotment all the time

Natasha: I do gardening with my Nan

Brownwyn: you own an allotment?

Rafi: yeah...

Case 2, Session 16

ii. 9Bi.2) Experiential Understanding and Planning Session

It should be noted that the *planning* theme in Case 2 arose from just one meeting; the result of a conversation initiated by the children in the group as the herb garden work was nearing completion. In this planning session (Session 17), the children were given the opportunity to share their ideas with the group and Tic2 for how they thought the club should develop in terms of the it should take on. What was remarkable was the number of ideas that emerged during this session. The children exhibited a very good understanding of the school grounds and their potential and made twelve separate suggestions about how they could improve the school grounds.

The data in Table 9Bi.1 is taken from this one session. The category *change* was coded because it was evident from the way in which the children talked about the school grounds that they had identified a number of issues and had ideas for how these could be changed. In other words, they could envision alternative solutions and outcomes.

Table 9Bi.2) Tabulating the *Planning Session* and the coding subcategories for the category: *experiential understanding*.

Appendix 7

Experiential Understanding coding subcategories	**A : planning session**
1 : applying knowledge gained elsewhere aggregate	No
2 : applying knowledge only	No
3 : making connections to other	No
4 : change	Yes
5 : drawing on past experience to suggest alternative solutions	Yes
6 : making change	No
7 : recounting past experiences	Yes
8 : re-evaluating past events or remembering plans not carried out.	No
9 : taking action aggregate	No
10 : learning about what it means	No
9 : taking action only	No
13 : envisioning alternative outcomes	Yes
14 : envisioning alternative solutions	Yes

Box 9Bi.2 was selected because it exemplified the majority of the categories in this set that were coded for in the data arising from the planning meeting. Envisioning alternative solutions and outcomes are evident from the dialogue where the children suggest their ideas for developing the school grounds. Change is coded for as the children are talking about their willingness to effect change in the school. It is not clear from this excerpt that the children are drawing on past experience. However, knowledge of the context of this encounter reveals that these children were involved in a day long off timetable

experience with a charity called the Young People's Trust for the Environment who talked to the children about their school grounds and what they can do to improve it. Although I was not present at this event, the parent facilitator interviewed for this research talked about the event. It is reasonable to infer that the remarkable level of understanding and interest exhibited by the children during this session was influenced by their involvement in this event. Moreover, this knowledge from the interview was not connected to the planning session until all of the data from the sessions had already been coded. During the session itself, Tic2 and I discussed how remarkable it was that the children were able to make such insightful suggestions about the school grounds. Tic2 did not associate this with the event with YPTE described to me by the parent facilitator. It was only whilst reviewing the transcription of the interview with the parent facilitator that the connection emerged. At this point, I had to review the coding of the transcript of this session to account for this information. The implications of this finding are discussed in Chapter 12.

Moreover, the school pond had been a focus of discussion in the school for other reasons. During my visits to the school, I learned that the school pond had been vandalised by older children that do not attend the school. This anti-social behaviour had been the focus of a whole school assembly led by a local police officer. Hence, the school pond had garnered a considerable amount of attention around the school. The statement taken from this session: 'I think the pond we need to work on because teenagers have come in and like ruined it and it is like really unfair and I would like to really like change it' is illustrative of the feelings of the children about this issue.

Further information about the pond was revealed to me during my interview with the head teacher and the parent facilitator, but it was also told to me during informal (unrecorded) conversations with the children in Eco Club.

Box 9Bi.2: Excerpt to exemplify experiential understanding and the coding subcategories: *change, drawing on past experience to suggest alternative solutions, envisioning alternative outcomes and outcomes* for the category: *experiential understanding*.

Tic2: so you want to make some bird boxes and put them around the school. Brownwyn?

Brownwyn: I think that we should work on the pond and um we used to have like frogs and dragon flies and it was full of water but then like teenagers came and they like ruined it with sticks and so now the water is all gone.

Tic2: ok, so the pond does anyone else agree on the pond (*lots of assent*) so that is a big one isn't it? ok so Lucy what were you saying earlier?

Lucy: I think we should have an outdoor classroom because we used to have benches there but they have all fallen part and um rotted away. And we could have something like sheltering them because then they wouldn't rot away so fast because they wouldn't get so damp.

Tim: I think we could have a little hut and you just sit there because you are sitting a little low. or it could be out of wood so they can't see you?

Tic2: so like a little shelter?

Me: is it called a bird hide?

Tim: I don't know.

me: I think they do, don't they?

Tic2: bird hide. so we can watch the wildlife. Ok, anything else that you can think of?

UnIS: well, and maybe in like the outdoor shelter we can put like a piece of paper so if they go in there and find an insect then if they go in there they can look it up on the piece of paper with the insect on it so then they will tell you what that insect is.

Case2, Session 17

h. Section 9Bii) Knowledge

In Case 2, knowledge had two specific applications. The first and dominant application was in terms of knowledge about herbs and herb gardening. Opportunities for developing knowledge about this issue were afforded by the theme: *group gardening activity*. Secondly, knowledge about local opportunities and issues were a feature of the theme: *planning session.* In this instance, the in-depth knowledge about the school grounds were coded for as local conditions and opportunities. This deviates in some ways from the way in which local conditions and opportunities emerges from the action competence literature. As noted earlier, in the literature, it is more conventional to use the term local when referring to the community surrounding the school, but not the school itself. In this research, it was deemed appropriate to extend the term to the school and its grounds too. The justification for doing this are outlined in Chapters 3 and 4 but pertain to the fact the school and its grounds afford authentic experiences of environmental challenges and instantiations of democracy. These experiences are ones that children gain on a daily basis, unlike those that are designed by practitioners with a particular approach to education such as the action competence perspective.

i. 9Bii.1) Knowledge and Group Gardening Activity

The group gardening activity afforded opportunities for the development of knowledge in a number of different encounters. Box 9Bi.1 reveals how the discussion of watering increased familiarity with what watering involves and knowledge about it for the children taking part in the dialogue. The excerpt in Box 9Bii.1 exemplifies another example of how this sort of activity involving the whole group afforded opportunities for the development of this attribute set.

Table 9Bii.1) Tabulation *Group Gardening Activity* for the coding categories for the set: *Knowledge*

Knowledge coding categories	**Presence**
1 : applying knowledge gained elsewhere	Yes

2 : making connections to other	Yes
3 : conflicting ideas	Yes
4 : increased familiarity with issue	Yes
5 : increasing knowledge about an issue	Yes
6 : Knowledge about problem	No
7 : local conditions and opportunities	Yes
8 : local environmental people	No
9 : Local issues	Yes
10 : Possible solutions	No
9 : validity and reliability of knowledge and information	No

The excerpt in Box 9Bii.1 is taken from an encounter involving a discussion between myself and the children in the club about the plants that Tic2 had bought to put into the herb garden. A feature of this encounter was the fact that Tic2 did not know what the plants were. In this instance, the fact that the children are planting the herbs leads them to gain knowledge with regards to the identifying the herbs they are planting. Hence, it is the gardening activity that affords the opportunity for developing the knowledge. The fact that the dialogue occurs in a group situation is also significant as it allows those children who might not have the confidence to speak out and ask about the herbs, the opportunity to develop their knowledge too. *Applying knowledge gained elsewhere* is evident in the quote from Katie ('we have got about three massive lavender bushes in our garden').

Tic2 is clearly also learning from her involvement in the gardening activity. This outcome is not the focus of this research but it is interesting to note its occurrence in this respect here as it suggest further applications of these data.

Box 9Bii.1) Excerpt to exemplify *Group Gardening Activity* and *increased familiarity with issue, increasing knowledge about an issue, applying knowledge gained elsewhere* and *making connections to other .*

Me: mar - jar

Darren: margarine!

Me: um.... marjoram, golden marjoram

Darren: what is this?

Me: lavender.

Darren: lavender?

Me: do you all agree that that is lavender? this one here

2+S: yes, yeah its lavender its lavender

Katie: we have got about three massive lavender bushes in our garden

Me: have you? and this one?

Nial: I really like it.

Darren: that's lavender.

Me: smell it. Yeah, that is really nice

Nial: yeah, that is lavender.

Case2, Session 14

ii. 9Bii.2) Knowledge and Planning Session

The *planning* theme afforded opportunities for the development of a number of the categories in this set. As described earlier, knowledge of the entirety of this encounter (i.e. its unintended links to an event organised by the YPTE focused on developing the school grounds), necessitated changes to the original coding of this session.

Appendix 7

Table 9Bii.2) Tabulation *Planning* for the coding categories for the set: *Knowledge*

Knowledge coding categories	**A : planning session**
1 : applying knowledge gained elsewhere	Yes
2 : making connections to other	Yes
3 : conflicting ideas	No
4 : increased familiarity with issue	Yes
5 : increasing knowledge about an issue	Yes
6 : Knowledge about problem	No
7 : local conditions and opportunities	Yes
8 : local environmental people	No
9 : Local issues	Yes
10 : Possible solutions	No
9 : validity and reliability of knowledge and information	No

The excerpt in Box 9.ii.2 exemplifies the application of the knowledge gained elsewhere and the connections to other (i.e. the YPTE event). The discussion itself afforded opportunities for the development of familiarity and knowledge about the school grounds for those talking and those listening. Moreover, the fact that the discussions focused on local opportunities and issues afforded opportunities for the development of knowledge about these issues that were significant for the school community.

Box 9Bii.2 Excerpt to exemplify the coding subcategories: applying knowledge gained elsewhere, making connections to other , increased familiar with and

knowledge about an issue and knowledge about local opportunities and conditions.

Brownwyn: I think the pond we need to work on because teenagers have come in and like ruined it and it is like, really unfair and I would like to really like change it.

Boy5: Um also I would like, like to work on the pond because at the moment it doesn't really like look like um… because there used to be it used to be good and like flies and like dragonflies used to like live there; but people keep on coming and like, ruining it.

Lucy: I thought we could like get nest boxes and put them up around the school and then on there is the idea of you can make like your own feeders so you get like free sieves and you put food in them and you could have like a little bird area, a nature area

Tic2: oh, I love that idea make some bird feeders.

Lucy: there is this thing to do like on Spring watch. if you get one of those if you get like a bird feeder but you don't fill it up with like food you fill it up with like nesting materials like bits of string or wool that they can put in the bird boxes.

Case 2, Session 17

i. Section 9Biii) Skills

i. 9Biii.1) Skills and Group Gardening Activity

The table for this section looks different because it only includes the skills that were coded for in the data from sessions. This enables all of the data to be displayed in one table rather than separating it out as in section 9Aiii. This decision was made because, in Case 2, only twenty-one of a possible forty-eight themes were in evidence in the analysis.

Appendix 7

Skills coding categories and subcategories	**A : Ph2Sch2**
a) Communication 2 : communication only	Yes
3 : listening	Yes
7 : talk about subject	Yes
b) Critical Thinking 12 : challenging authority	Yes
13 : critical thinking only	Yes
16 : identifying undesirable outcomes	Yes
17 : suggesting improvements	Yes
c) Leadership 23 : Leadership only	Yes
25 : nominated by teacher	Yes
d) problem solving	Yes
e) Reflection 29 : conflicting opinions	Yes
30 : discussing a question	Yes
33 : reflection only	Yes
34 : revisiting learning from previous sessions	Yes
f) Envisioning	

36 : envisioning alternative outcomes	Yes
37 : envisioning alternative solutions	Yes
g) Teamwork	
44 : completing a activity together	Yes
45 : co-operation	Yes
46 : handling disagreement	Yes
47 : Team work only	Yes

a) Communication and Group Gardening Activity

Communication in this attribute set does not benefit from exemplification with an excerpt. The communication that takes place involves conversations about what is taking place in the activity. There are no examples of any of the kinds of communication involving blogging, writing letters or emails or making posters. The conversations that take place generally involve talking about the subject of gardening and listening to instructions from Tic2.

b) Critical Thinking and Group Gardening Activity

This influence of the theme: *group gardening activity* on *critical thinking* is questionable. It is possible to argue that the excerpt below is an outcome of the individuals involved rather than the *group gardening activity* itself. However, it is certainly the case that the subject of the dialogue is the gardening activity and act of producing the dialogue is an outcome of the fact that the activity is carried out by a group of individuals rather than a single individual working on alone.

Box 9Biii.b) Excerpt to exemplify *Group Gardening Activity* and the coding subcategories: *challenging authority* and *identifying undesirable outcomes* for the category: *Critical Thinking*

Tic2: giving instructions for returning the tools

Rafi: you have got to put all the covers back first

Tic2: no no don't worry about the covers

Rafi: that might hurt someone.

Tic2: oh yeah, that one but these ones don't worry because they don't have covers. Just pop them back in the shed

Boy6: the rakes and the forks

Rafi: they do have covers, there over there

Tic2: do they all have covers? Oh yeah. Ok, put them back on then.

Sophia: my cover is over there

Case 2, Session 12

The excerpt in Box 9Biii.b is taken from an encounter in which the children were packing away the tools at the end of a session in the garden. Here Rafi challenges Tic2's decision to leave the covers off the gardening tools and then identifies the undesirable outcome of someone getting hurt when she suggests leaving them off anyway.

c) Leadership and Group Gardening Activity

The excerpt in Box 9biii.c is the only example of any opportunities for the development of leadership skills in Case 2. In this example the leadership itself took place outside of the group but the opportunity was afforded to the children by their status as members of the group and their experience of gardening in the group. For this reason the theme: group gardening activity is influential in affording opportunities for the development of the attributes represented by these categories.

Box 9Biii.c) Excerpt to exemplify *group gardening activity* and the subcategory: *leadership* in the category: *skills*.

Tic2: we are doing well aren't we? and look we have got all of those still to plant. I might get some people from my class to do a couple this afternoon.

Charlie: so?

Tic2: so you can show them out here. So you can supervise one team and you can supervise the other just so we get them all done before next week.

Charlie: good

Darren: yes!

Session 15

d) Problem solving and Group Gardening Activity

Problem solving was an outcome of a number of the encounters in the group although the nature of the mean that the dialogue is not particularly revealing. The excerpt below is taken from an encounter in which a child is trying to dig a hole for lavender plant. This proves difficult because of the hardness of the ground so Natasha suggests adding water. In this instance it is the gardening activity that affords the opportunities for the development of problem solving in the skills category.

Box 9Biii.d) Excerpt to exemplify *group gardening activity* and the subcategory *problem solving* in the category *problem solving*.

Natasha: I think we are going to have to get some water in there because it is too hard.

Me: shall… shall I do that shall I do that? Ask Miss just to check

Tic2: um, just a little bit.

Natasha: like that?

Me: put some in that one as well, Natasha.

Case 2, Session 14

e) Reflection and Group Gardening Activity

The excerpts in Box 9Biii.e exemplify how *group gardening activity* in Case 2 afforded opportunities for the development of reflection. The first excerpt is included not because the dialogue contains an example of reflection but because of the subject and the opportunity for reflection that it affords. The conversation that takes place is of interest because it shows how the presence of different children in the group leads to the need to consider language when describing aspects such as size. Within the group different children define the size of the garden according to their personal experience. The outcome is that the same garden is simultaneously little, big and massive. Although there is no evidence in the dialogue of reflection taking place, there is certainly the opportunity for reflection on different viewpoints to take place.

The excerpt in the second part of Box 9Biii.e evinces *conflicting opinions* being elicited by the unearthing of worms during the activity. In this instance it is the gardening activity that brings up the worms (the subject of the opinions) and the fact that there is a group of children with differing opinions leads to the conflict.

Box 9Biii.e) Excerpt to exemplify group gardening activity and the subcategories *reflection, conflicting opinions*, *discussing a question*

Tic2: so, this time next week we should have our herb garden

Katy: yay!!!

Rafi: a little one?

Brownwyn: huh, a little one?

Tic2: well, a big herb garden

Rafi: well, I guess that makes sense.

Daisy: I call this a massive garden!

Case 2, Session 14

sally: look at that big worm

Katy: there is a woodlice

Tic2: oh look there is a huge worm in here. Who doesn't mind worms?

Brownwyn: no, I hate worms

Rafi: me...

Nial: me I like… I don't mind worms.

Tic2: ok, would you mind picking that up for me? coz I hate worms

Brownwyn: ooo that is big

(*Nial picks up the worm)*

Rafi: it is all part of eco!

Tic2: well done Nial.

Rafi: you can't be scared of worms

Brownwyn: I am not scared of spiders

by6: nor am I!

Rafi: I love spiders, it is especially hard round the sides.

Nial: oh he is going in the weeds. Hopefully he will eat some.

Tic2: remember, all the green needs to go in here.

Tic2: there is so much to do in little space of time with them. Like I would love to have an afternoon with them. I am going ot try and do that in the summer. Then it won't be so and I will let you know when

Tom: I found some grass!

Brownwyn: can you get that massive root?

Tom: which one? Look at this massive root. there is a massive root here

Tic2: oh there is a stone.

Nial: do you mind putting that in the bin?

Rafi: I will put in the bin.

Tic2: remember to pick up all the green bits with your fingers and put them in the bin.

Nial: shall we keep the woodlice here?

Tic2: yeah, coz that is its home, isn't it? Unless you are gonna accidently hurt them just leave them there.

Case 2, Session 12

f) Envisioning and Group Gardening Activity

The table shows that opportunities for developing envisioning attributes were afforded during the meetings of this club. The extract in Box ? is taken from an encounter in which the children start to discuss what the club should do next; hence it shows that the children were envisioning different outcomes and ways in

which they could contribute to change. However, as discussed in the next section, the conversation does not arise from the gardening activity but more likely it is an outcome of the competing and conflicting approaches of the different stakeholders in the group. Hence no excerpt is included for the envisioning category.

g) Teamwork and Group Gardening Activity

Teamwork was a strong element of the *group gardening activity*. The completion of the herb garden was dependent on their ability to work together. However, the dialogue from the meetings does not reveal these categories and subcategories very clearly. Knowledge of the entire encounter is necessary to be able to identify teamwork in the data. The extract in Box 9Biii.e) below must be viewed in the context of an encounter in which eight children were working in a small space (two metres by four metres) out of one bag to cover the exposed black plastic with bark. Teamwork is evident in the fact that they completed the activity successfully without any injuries or conflict and the way in which they work together to identify areas that still need work (underlined in the text).

Box 9Biii.e) Excerpt to exemplify group gardening activity and the subcategories *co-operation, completing an activity together, being nice to each other and handling disagreement* in the category: *teamwork.*

Tic2: look you need to be careful of the herbs. they need soil around them, not bark

Rafi: this is looking amazing! I have to say.

Tim: I only need one

Tic2: right, I need some over here. We need a load over here before you go down there. make sure this area is all done

Tim: ok,

Brownwyn: yeah ok

Tic2: Because I am going to buy some, more so just want to make sure this whole area is really well covered.

Rafi: we might have enough for all of it.

Boy5: We probably only need a small bag next time.

Tic2: I don't think we are going to so I just want to make sure that this is done. So, let's step back and have a look at where the liner is. So, where can we see that needs more bark?

Tim: here!

Brownwyn: there.

Tic: we need some here. So, before we start covering more, let's do this bit. Because I am going to get some more. This isn't it, I will get another one.

Rafi: we probably only need a small one

Tic2: No, I will probably get two to be honest to have a really good covering.

Boy5: otherwise it will just fade away with the wind

Tic2: right, let's move put all our instruments away and then we will stand back and see what we need to do.

Session 16

ii. 9Biii.2) Skills and Planning Session

The attributes represented in the *skills* set are all evident in the excerpts in Boxes 9Bi&ii above. Thus, opportunities for developing *communication*, *listening* and *talking about a subject* and *discussion* are all evident from data in these boxes. These data are taken from an encounter in which the children in the club are asked to talk about their ideas for the future direction of the club. In the act of talking about this subject, they reflect on and discuss how some ideas might be

more achievable than others might. Furthermore, the route that they suggest the club takes is to work on improving the outdoor space in the school (this accounts for the coding of the critical thinking categories and subcategories in this data). During this session, I was struck by how much the children seemed to know about the school grounds and the certainty they had in their ideas for improving the area. In interview with the parent facilitator (See Chapter 6 for some more details of this interview) it transpired that the children in the club had spent a day with a representative from the Young Person's Trust for the Environment.

Coding categories and subcategories for Skills	**A : planning session**
1 : communication aggregate	Yes
2 : communication only	Yes
3 : listening	Yes
7 : talk about subject	Yes
9 : critical thinking aggregate	Yes
12 : challenging authority	Yes
13 : critical thinking only	Yes
17 : suggesting improvements	Yes
20 : Discussion	Yes
28 : Reflection aggregate	Yes
30 : discussing a question	Yes
33 : reflection only	Yes
35 : envisioning	Yes

36 : envisioning alternative outcomes	Yes
37 : envisioning alternative solutions	Yes
49 : envisioning alternative solutions	Yes

No further excerpts are offered for this attribute set as those in Box 9Bi & ii suffice to exemplify the categories in the skills set.

j. Section 9Biv Volitional Dispositions

The categories in the Volitional Dispositions Attribute set were the most frequent in the data. Of the twenty-one categories that could have been coded for in this set, nineteen were identified in the data. This data shows that the *group gardening activity* was particularly effective at engaging and involving the children.

i. 9Biv.1) Volitional Dispositions and Group Gardening Activity

Coding Categories	**A : Ph2Sch2**
1 : Children determining the direction	Yes
2 : confidence	Yes
3 : confidence in speaking out and being listened to	Yes
5 : Empowerment	Yes
Engagement 7 : being impressed	Yes
8 : commitment	Yes
9 : care	Yes

10 : disappointment	Yes
9 : engagement only	Yes
12 : enjoyment	Yes
13 : loving or liking	Yes
14 : volunteering parental input	No
15 : volunteering to do a job	Yes
16 : volunteering to lead	Yes
17 : Willingness to participate	Yes
18 : idea generation by group members	Yes
19 : Involvement	Yes
20 : making decisions or choices	Yes
21 : Ownership	Yes
22 : save the world	No
23 : Willingness to suggest alternative solutions	Yes

Excerpt 1 in Box 9Biv.1 exemplifies the influence of group gardening activity on volitional dispositions. It is taken from an encounter in which the children are digging up weeds in the patch. The ground has become very hard over a period of weeks since the previous attempt to weed the patch. Excerpt 2 is included to illustrate how the children supported each other through empowering statements like 'there is no such thing as impossible'. In this encounter, the level of difficulty of the activity contributes to the influence of the activity on the opportunities afforded for the development of the attributes in this set.

Appendix 7

Box 9Biv.1) Excerpt to exemplify *group gardening activity* and the coding categories and subcategories: *empowerment, confidence in speaking out, being impressed, enjoyment, willingness to participate, idea generation by group members, willingness to suggest alternative solutions*

Excerpt 1

Boy1: that is coz the soil is so hard.

Brownwyn: Wow! Tim, you have already got that far?

Tim: yeah?

boy1: ah wowowoww!

Rafi: this is as big as I want it to be.

Tic1: do you think this is easier or harder than last time?

2+S: harder!

Tic1: it is isn't it? what has happened to it?

boy1: the thing is there hasn't been that much rain that often so all the soil has gone really hard.

Tic1: oh no, but has been raining that is why we haven't been able to do it. That is why we haven't had Eco Club outside because it has been raining every Thursday lunch time.

Tim: so it grows more

Rafi: there are loads of stones and stuff so it is really impossible to dig.

Tic2: hello sweetie! (*to a girl arriving late*) grab a trowel

Rafi: it is nearly impossible to dig there are so many rocks and rubble around

Me: it is hard

Tic2: you can do it Rafi!

Session 12

Excerpt 2

Tic2: Yes you can, I can trust you, just be careful with it.

BoyY6: this is too hard

Brownwyn: No, there is no such thing as impossible!

Boyy6: the only thing that is impossible is impossibility, I know!

Tic2: Wow! Where did that… oh, they need to go in the bag.

Session 12

Excerpt 3

Nial: ohhhg! I think I got it out! yes! (*waves a root arond proudly*!)

Brownwyn: did you get it?

Boy5: eventually!

Nial: it looks like an enormous turnip! pull!

(Lucy pulls from behind and they are pulling it together)

2+S: yoo hoo wooh hooo ! yeah! Yay! (*clapping! laughter and congratulations all round*).

UnIS: oh my goooooo

Lucy: Nial, show it to the camera.

(*he does this and is grinning from ear to ear!)*

Appendix 7

Tic2: Nial I think you should go and show Mrs Ht2 that.

Ina: ok...

Tic2: Nial, Nial wait here and we can go and show her after lunch.

Lucy: can i go too?

Tic2: no no let Nial go by himself. Wait there a second, have a break and then we will go and show Mrs Ht2.

Boy5: can I come?

Brownwyn: No, just Nial.

Tic2: no just Nial is going to go because he has worked very hard.

Session 13

Excerpt 4

Katie: that has totally reminded me of Nial and those ginormous roots. He spent the whole lesson talking about it.

Tic2: I know, that was so funny, wasn't it?

Session 17

Excerpt 1 in Box 9Biv.1 provides a revealing example of the coding categories *being impressed* and *empowerment* in the following quote from Brownwyn: 'Wow! Tim, you have already got that far?'. This kind of positive encouragement was a feature of the group work in this club. The fact that Brownwyn is so impressed by the amount of digging and weeding that Tim has done, affords Tim the opportunity to be empowered by the group gardening activity. The group work aspect of the theme (i.e. *group gardening activity*) is clearly influential in affording the opportunities for this kind of positive encouragement to take place. The fact that the group are working on a gardening activity may also be

influential; in this instance it might be that Tim is so productive because he enjoys gardening. It may however, be that if this group of children were tidying up a classroom they would be equally impressed by each other's efforts; hence it is harder to make the link between *gardening* and the volitional dispositions of *being impressed* and *empowerment.*

Having said that, a conversation that took place during the planning session (session 17, see Theme 2) about the gardening activity, reveals something about the gardening nature of the activity that is worth noting. This is Excerpt 4 in Box 9Biv.1 above.

The dialogue in Excerpt 4 refers to an earlier gardening session where a boy had spent the session pulling up a root that had proved very tricky to unearth (exemplified by Excerpt 3 in Box 9B.iv.1). This was seen as quite an achievement, so much so that Tic2 suggested he should take the root to Ht2 to show her what he had achieved. What these two excerpts show is the way in which the work that the boy did impressed not only the other members of the club, but also himself. He reportedly 'spent the whole lesson talking about it'. In this instance, it is reasonable to assume that the job of gardening afforded the opportunity for him to feel empowered by his achievement.

ii. 9Biv.2) Volitional Dispositions and Planning

The *planning* theme afforded opportunities for the development of skills such as *confidence in speaking out and being listened* to; aligned with confidence, the planning session afforded opportunities for the development of *empowerment, engagement* and *involvement* by giving the children the opportunity to have ownership of the club and its . At this point, the significance of a participatory approach to engaging children becomes evident.

Table 9Biv.2) Tabulating Planning and the coding categories for Volitional Dispositions

Volitional Dispositions coding categories	**A : planning**

Appendix 7

	session
1 : Children determining the direction	Yes
2 : confidence	Yes
3 : confidence in speaking out and being listened to	Yes
4 : confidence solely	No
5 : Empowerment	Yes
7 : being impressed	Yes
8 : commitment	No
9 : care	No
10 : disappointment	Yes
9 : engagement only	Yes
12 : enjoyment	No
13 : loving or liking	No
14 : volunteering parental input	No
15 : volunteering to do a job	No
16 : volunteering to lead	No
17 : Willingness to participate	Yes
18 : idea generation by group members	Yes
19 : Involvement	Yes
20 : making decisions or choices	No
21 : Ownership	Yes
22 : save the world	No

23 : Willingness to suggest alternative solutions	Yes

Box 9Biv.2 contains excerpts from the planning session that exemplify all of the categories evident in the table above. Confidence, empowerment, involvement, and engagement are evident in the text. The fact that the children are confident enough to voice their opinions about what can be done evinces that the activity of planning the club's future endeavours affords opportunities for the development of these categories.

Excerpt 2 below was selected because it identifies two categories: *ownership* and *disappointment*, that have not been yet been addressed in this analysis. The excerpt is taken from the end of the planning session when the children had already shared their ideas for future directions. The children themselves raised the question of future participation and the feeling of disappointment in the room when Tic2 suggested that others might want to be involved, was palpable. It was clear that the children did not agree that they had done as much good work as Tic2 felt they had. The disappointment category is clearly not an attribute in itself but it is an interesting indicator of engagement, involvement and ownership in and of the club. The fact that they were disappointed by what they had achieved and by the idea of leaving the club, suggests the presence of a sense of ownership amongst the members. This planning session therefore afforded the opportunity for them exhibit their sense of ownership, engagement and involvement with the club.

It is possible that the act of exhibiting these feelings enhances them, thus strengthening the children's motivation to participate in the club's and the increasing the likelihood of the club achieving its goals; as well as shaping those goals through shared interests. In this event the planning session affords opportunities for the development of these categories as well as affording opportunities for strengthening the potential for the club to achieve its goals. In terms of action competence, this is an important outcome whose impact is developed in Chapter 13.

Appendix 7

Box 9Biv.2) Excerpts to exemplify *planning* theme and the coding categories and subcategories for the set: *Volitional Dispositions*.

Excerpt 1

Lucy: I thought we could like get nest boxes and put them up around the school and then on there is the idea of you can make like your own feeders so you get liek free sieves and you put food in them and you could have like a little bird area, a nature area

Tic2: oh I love that idea make some bird feeders.

Lucy: there is this thing to do like on Spring watch. If you get one of those if you get like a bird feeder but you don't fill it up with like food you fill it up with like nesting materials I bits of string or wool that they can put in the bird boxes.

Tic2: I like that idea. So we have got bird nesters, bird boxes and bird feeders fantastic.

Case 2, Session 17

Excerpt 2

Tic2: remember, we don't have to get all of this done by the end of this year; some of this can be done next year and the year after.

Lucy: will we be here then?

Tic2: some of us will and some of us won't

Lucy: do you think we can stay in the club?

Tic2: Well, I imagine it will... oh you mean with members and things?

2+S: yes, yeah, yes

Tic2: I am not sure because in a way it will be nice to give others the chance coz you have done so much good work this year with the herb garden; so it might be nice to give other children the chance be we have still got a few weeks and we will

be using your ideas with the new eco group.

Darren: and do we need badges?

Tic2: and we have still got to make our badges.

Hope: we could have a competition...

Tic2: no we have we have already got one from Katy. We still need to use Katy's design. I will put that one there. Coz I might consider making you all.... Umm keeping you all the same just because you have got so many ideas... so it might be nice to keep everyone the same carrying on... because you haven't even got your badges yet, have you?

2+S: yes, yeah, yay!

Tic2: yeah! we could. Right, have a think about it and I will think about which will be the easiest ones to do next and what Ht2 wants us to do as well, and I will discuss it with her.

Session 17